above ground storage tank air quality asbestos/lead-based paint baseline environmental assessment brownfield redevelopment building/infrastructure restoration caisson/piles coatings concrete construction materials services corrosion dewatering drilling due care analysis earth retention system environmental compliance environmental site assessment facility asset management failure analyses forensic engineering foundation engineering geodynamic/vibration geophysical survey geosynthetic greyfield redevelopment ground modification hydrogeologic evaluation industrial hygiene indoor air quality/mold instrumentation masonry/stone metals nondestructive testing pavement evaluation/design property condition assessment regulatory compliance remediation risk assessment roof system management sealants/waterproofing settlement analysis slope stability storm water management structural steel/welding underground storage tank

#### PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

### 26500 NORTHWESTERN HIGHWAY SOUTHFIELD, MICHIGAN

#### PREPARED FOR:

26500 Northwestern Highway, LLC c/o Kresch Legal 24100 Southfield Road, Suite 100 Southfield, MI 48075

#### PREPARED BY:

SOIL AND MATERIALS ENGINEERS, INC. 43980 PLYMOUTH OAKS BOULEVARD PLYMOUTH, MICHIGAN 49170

SME Project Number: PE54232D-06

June 21, 2011





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June 21, 2011

Mr. Ari Kresch 26500 Northwestern Highway, LLC c/o Kresch Legal 24100 Southfield Road, Suite 100 Southfield, Michigan 48075

RE: Phase II Environmental Site Assessment Report

26500 Southfield Road Southfield, Michigan 48076

SME Project Number: PE54232D-06

Dear Mr. Kresch:

Soil and Materials Engineers, Inc. (SME) has prepared this report to summarize the results of the environmental assessment conducted at 26500 Northwestern Highway, in the city of Southfield, Oakland County, Michigan (Property).

We appreciate the opportunity to be of continued service to you on this project. If you have any questions or comments, please call.

Very truly yours,

SOIL AND MATERIALS ENGINEERS, INC.

Jeremy N. Efros

Staff Geologist

Debra K. Osuch, REM

Manager Development Services

Keith Egan, Ohio CP Senior Consultant

Enclosures:

2 printed reports and 2 CDs

Distribution: Ms. Rochelle Freeman, City of Southfield (2 CDs)

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**OFFICES** Indiana Michigan Ohio

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#### 1.0 INTRODUCTION

This report documents the activities and findings of a Phase II Environmental Site Assessment (ESA) of the site located at 26500 Northwestern Highway, in the City of Southfield, Oakland County, Michigan (hereinafter referred to as the Property). At the time of the investigation, the Property consisted of four acres of land developed with a four-story commercial building and paved parking areas. The Property was located in a primarily commercial area south of I-696, north of M-10, and east of Lahser Road. The general location of the Property is depicted in Figure 1, and existing Property features along with soil boring locations are displayed in Figure 2.

The objective of the Phase II ESA was to assess potential environmental impact associated with Recognized Environmental Conditions (RECs) at the Property indentified in SME's August 18, 2010, Phase I ESA. SME identified the following RECs in connection with the Property:

- The potential for environmental impact on the Property associated with:
  - o Potential presence of heating oil underground storage tanks (USTs) associated with former structures on the Property;
  - o Former nursery operations and the possible associated use and storage of herbicides, pesticides and fungicides;
  - The northwest adjoining former filling station and auto repair shop at 26760 Lahser; and
  - o The southwest adjoining former filling station at 26550 Northwestern Highway.

Before conducting the Phase II ESA, SME retained Geosphere, Inc. to conduct a geophysical survey on the Property to assess the potential buried heating oil USTs identified as a REC in the Phase I ESA. SME selected the geophysical survey areas based on features of interest observed on historical aerial photographs (reviewed during SME's Phase I ESA). The geophysical survey was conducted on January 4 and 5, 2011. Geosphere established a grid with 10-foot node spacing across the survey areas. North-south and east-west transects were then traversed by foot while handheld EM31 and gradiometer and magnetometer instruments logged data for each transect. Geosphere used their collected geophysical data to interpret and mark the locations of interpreted buried features. Geosphere's findings and survey-specific maps are presented in their January 19, 2011, geophysical report (see Appendix C).

SME's specific scope of assessment, assessment procedures, results of the assessment and conclusions are presented in the following sections.



#### 2.0 SCOPE OF ASSESSMENT

The Phase II ESA was conducted in accordance with the scope of service described in SME's February 15, 2011, Sampling and Analysis Plan.

The following is a summary of the Phase II ESA scope of work, which is discussed in more detail in Section 3.0:

- Eleven (11) soil borings (SB1 through S11; Figure 2) were advanced to depths ranging from approximately 4 feet to 16 feet below the ground surface (bgs). SME collected soil samples from each boring location at two foot intervals. SME containerized one soil sample from soil boring locations SB1 through SB4, SB6 through SB8, SB10, and SB11 for potential chemical analysis. The soil samples were field screened and the interval with highest potential for impact (based on the field screening) was sampled.
- A temporary groundwater monitoring well was installed at soil boring locations SB3 through SB10. SME collected a groundwater sample from each of these monitoring well for potential chemical analyses. The groundwater samples from SB3, SB4, SB6, and SB7 were not submitted for laboratory analysis because based on the REC being assessed and/or encountered field conditions, soil samples were selected for chemical analyses in lieu of groundwater samples at these locations.
- SME compared the analytical results to Michigan Department of Environmental Quality (MDEQ) Part 201 Generic Residential Cleanup Criteria and Screening Levels, dated March 25, 2011.
- The results of chemical analyses were evaluated, and this Phase II ESA report was prepared.

A Phase II ESA report was prepared rather than a Baseline Environmental Assessment because in SME's opinion, the Property was not defined as a "facility."



#### 3.0 SAMPLING AND ANALYSIS PROCEDURES

SME advanced 11 direct push soil borings (SB1 through S11), and collected soil and groundwater samples at the Property on May 10 and May 16, 2011. The sampling locations are depicted on Figure 2. Borings were advanced to depths ranging from 4 feet to 16 feet below ground surface (bgs); groundwater was encountered at 9 of the 11 locations. SME collected soil samples from each boring location at two foot intervals. One soil samples from each location, excluding SB5 and SB9, were containerized for potential sample analysis based on visual observations, photoionization detector (PID) readings, staining, or odors. One groundwater sample was also collected from soil borings SB3 through SB10 for potential analysis. The specific sample intervals submitted for laboratory analysis are provided on Tables 1 and 2. SME advanced the following soil borings to evaluate the RECs identified in the Phase I ESA:

- Three soil borings (SB1 through SB3) were advanced to evaluate the potential for impact associated with the presence of fill on the Property.
- Two soil borings (SB4 and SB7) were advanced to evaluate the potential for subsurface impact related to heating oil USTs that that may have been used on the Property. Soil boring SB7 was also intended to address former nursery operations on the Property.
- One soil boring (SB5) was advanced to evaluate the potential for subsurface impact associated with migration of residual or unknown contamination from the northwest-adjoining former filling station and auto repair site onto the Property.
- One soil boring (SB6) was advanced to evaluate the potential for subsurface impact related to heating oil USTs and former nursery operations on the Property.
- Two soil borings (SB8 and SB10) were advanced to evaluate the potential for subsurface impact related to heating oil USTs, the presence of contaminated fill, and former nursery operations on the Property.
- One soil boring (SB9) was advanced to evaluate the potential for subsurface impact related to heating oil USTs, as well as migration of potential residual or unknown contamination from the southwest-adjoining former filling station site.
- One soil boring (SB11) was advanced to evaluate the potential for subsurface impact related to contaminated fill and/or former nursery operations on the Property.



Sampling and analysis procedures used in this assessment were in accordance with procedures and guidance published by the MDEQ in relevant operational memoranda, and in accordance with the Sampling and Analysis Plan for the site dated February 15, 2011. Summaries of the sampling and analysis procedures are presented in the following subsections.

#### 3.1 Soil Boring Sampling Procedures

SME collected soil samples using a truck-mounted Geoprobe direct-push sampling rig. Soil samples were collected with the direct-push coring device using 48-inch long samplers. The samplers were lined with disposable acetate liners. Discrete soil samples were collected from the liners for soil classification and field screening by cutting open the acetate liner with a decontaminated utility knife and transferring the soil into an unpreserved plastic re-sealable bag. The discrete soil samples were classified in accordance with the Unified Soil Classification System (USCS).

SME screened soil samples in the field with a 10.6-eV photoionization detector (PID). The field screening was conducted by allowing time for the headspace above the soils collected for PID screening to equilibrate in the re-sealable plastic bags. The bags were then opened enough to insert the tip of the PID. The PID registers the presence of volatile organic vapors with a detection limit of approximately one part per million (ppm). Soil classifications and field screening results are presented in the Soil Boring Logs provided in Appendix A.

In addition to soil classification and field screening, soil samples were selected for potential chemical analysis and transferred into laboratory supplied container(s). SME selected soil samples for potential chemical analysis based on sample depth, field screening results, soil characteristics, and the specific REC being assessed. Soil samples collected for analysis of VOCs were collected directly from the acetate liner with a laboratory-supplied syringe-style coring device and placed in a 40-ml vial with methanol preservative in accordance with EPA Method 5035A. Soil samples collected for analysis of other constituents were homogenized prior to transferring the soil to a laboratory-supplied, pre-cleaned, 8-ounce glass jar.

Residual soil cuttings generated from the soil borings were returned to the corresponding bore hole after sampling activities were completed. The remaining space in the bore holes was filled with bentonite chips and patched with either asphalt or soil.

#### 3.2 Temporary Groundwater Monitoring Well Sampling Procedures

SME collected groundwater samples from soil borings SB3 through SB11 for potential chemical analyses. Groundwater samples were collected by installing a pre-packed temporary



PVC well screen into the saturated zones in the open borehole. The well screens were five feet in length, had a slot size of 0.010 inches, and were attached to one inch diameter PVC risers. The top of the well screens were placed at or above the depth of groundwater encountered during drilling. SME purged groundwater using polyethylene tubing connected to a peristaltic pump at a low-flow rate between 100 milliliter per minute (mL/min) and 500 mL/min and allowed the groundwater to stabilize prior to sampling. Water quality parameters pH, specific conductivity, and temperature were monitored for stabilization with an Oakton pH/Con 10 Meter. SME collected un-filtered groundwater samples using laboratory-supplied, pre-preserved containers directly from the effluent end of the pump tubing. After purging was completed, groundwater samples were collected from each well at the same purging flow rate. The analytical laboratory supplied pre-cleaned containers with appropriate preservatives for groundwater samples. After sample collection, the containerized samples were stored in ice filled coolers, until delivery to the analytical laboratory.

#### 3.3 Quality Assurance/Quality Control (QA/QC) Procedures

MDEQ protocols described in MDEQ-RRD *Operational Memorandum No. 2*, October 22, 2004, and procedures described in the February 15, 2011 *Sampling and Analysis Plan* for the site were used to guide sample collection, management, analyses, and quality assessment/quality control (QA/QC) procedures. Soil boring sampling tools were cleaned prior to drilling and/or between each boring location with a high pressure/temperature wash. In addition, prior to cutting each acetate liner, the utility knife was cleaned with a laboratory grade detergent and rinsed with distilled water. New pairs of disposable nitrile sampling gloves were used to transfer each soil sample from the acetate liner or groundwater samples to the sample jars for potential chemical analyses.

The analytical laboratory supplied the containers used for soil and groundwater sample collection. The sample jars were supplied pre-cleaned and containing the appropriate preservative. After sample collection, the containerized samples were kept cool, i.e. kept on ice or refrigerated, until delivery to the analytical laboratory. SME field staff followed chain-of-custody procedures to document the sample handling sequence.

SME submitted the soil and groundwater samples to Fibertec for chemical analyses. Analytical methods, laboratory reporting limits (RLs), and chain of custody documentation are provided in the analytical report in Appendix B. The analytical methods and detection limits were consistent with MDEQ – RRD's Operational Memorandum No. 2, dated July 5, 2007.



#### 3.4 Chemical Analyses

SME selected the target analytes for this assessment as representative of the hazardous substances most likely to have been released on the Property based on the current/historical operations and types of chemicals stored on the Property. The following list explains the sampling rational for the chosen parameters and sampling locations analyzed for the assessment:

- SB1 through SB3 were advanced to evaluate the potential for impact associated with the presence of contaminated fill. One soil sample was collected from each of soil borings SB1 through SB3 and analyzed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and 10 Michigan Metals and hexavalent chromium, which are typical screening analytes for fill of unknown nature/origin.
- SB4 was advanced evaluate the potential for subsurface impact related to heating oil USTs. Soil samples collected from SB4 were analyzed for VOCs and PAHs, which are applicable for assessing heating oil impacts.
- SB5 was advanced to evaluate the potential impact on the Property associated with migration of residual or unknown contamination on the northwest-adjoining former filling station and auto repair site. Groundwater collected from SB5 was analyzed for VOCs, PAHs, cadmium, chromium, and lead, which are typical screening analytes for fuel/waste oil USTs.
- SB6 and SB7 were advanced to evaluate the potential for subsurface impact related to
  heating oil USTs and nursery operations. One soil sample collected from SB6 and
  one soil sample collected from SB7 was analyzed for VOCs and PAHs (heating oil
  USTs) and pesticides, herbicides, arsenic, copper, lead, cyanide and sulfate (nursery
  operations).
- SB8 and SB10 were advanced to evaluate the potential for subsurface impact related to heating oil USTs, the presence of contaminated fill, and nursery operations. One soil sample and one groundwater sample collected from SB8, and one soil sample and one groundwater sample collected from SB10, were analyzed for VOCs, PAHs, 10 Michigan Metals, pesticides, herbicides, arsenic, copper, lead, cyanide, sulfate, and hexavalent chromium. Together, these analytes are applicable for assessing heating oil USTs, unknown fill, and nursery operations.
- SB9 was advanced to evaluate the potential for subsurface impact related to heating oil USTs, as well as potential migration of residual or unknown contamination on the southwest-adjoining former filling station site. The groundwater sample collected



from SB9 was analyzed for VOCs, PAHs, cadmium, chromium, and lead, which are applicable for assessing heating/fuel oil USTs.

• SB11 was advanced to evaluate the potential for subsurface impact related to contaminated fill and/or nursery operations. One soil sample collected from SB11 was analyzed for VOCs, PAHs, 10 Michigan Metals, pesticides, herbicides, arsenic, copper, lead, cyanide, sulfate, and hexavalent chromium.

Fibertec Environmental Services (Fibertec) of Holt, Michigan provided laboratory services for the assessment.

Laboratory analyses and field screening were performed as described in the project Sampling and Analysis Plan (SAP) dated February 15, 2011. The samples were analyzed for the following constituents using the referenced methods:

- VOCs EPA Method 8260
- PAHs EPA Method 8270
- Metals EPA Method 6020
- Mercury EPA Method 7471 B
- Herbicides EPA Method 8151
- Pesticides EPA Method 8081
- Total Cyanide (Soil) EPA Method 9014
- Available Cyanide (Groundwater) EPA Method 1677
- Sulfate EPA Method 9056

Chemical analysis methods for each analyte group generally conformed to the procedures described in the EPA SW-846 and MDEQ-RRD's October 22, 2004, *Operational Memorandum No. 2* (Op Memo 2). Specific sample preparation, analysis methods, and method reporting limits (RLs) are also included in the laboratory chemical analysis reports provided in Appendix B.



#### 4.0 FINDINGS

The subsurface conditions observed during the Phase II ESA and results of chemical analyses are presented in the following subsections.

#### 4.1 Subsurface Conditions

Soil boring logs documenting observed subsurface conditions are provided in Appendix A. Figure No. 2 is a Soil Boring Location Diagram. A generalized summary of the soils encountered below the surface cover (topsoil, concrete, or asphalt) in the borings is given below, beginning at the existing ground surface and continuing downward.

- Stratum 1 Fill Fill was observed beneath the surface cover in each soil boring with the exception of soil boring SB5, located approximately 130 feet north-northwest of the northwest corner of the building. The fill varied in composition from gravelly medium to coarse sand to clayey fine sand. The thickness of the fill ranged from less than half a foot, at soil boring SB6 located near the northwest corner of the building, to approximately four and a half feet, at soil boring location SB4 located east of the building on the southern portion of the parking lot. Groundwater was not encountered in the fill stratum in the boring locations. No staining, odors, or VOCs (based on PID screening) were observed in the fill stratum.
- Stratum 2 Native Sand Native sand, varying in composition from medium sand to fine sand with trace to some silt, was encountered beneath the fill stratum at each boring with the exception of SB5; the native sand stratum was encountered directly beneath surface cover at soil boring SB5. The sand was first encountered at depths of three inches to 4.5 feet bgs. The sand persisted to the explored extent of each boring with the maximum explored depth of boring of 16 feet bgs at soil boring SB11, located near the western end of the Property. Groundwater was encountered in the sand stratum at depths ranging from 8.5 feet below ground surface (bgs), at soil boring location SB8 located approximately 110 west of the northwest corner of the building, to 12 feet bgs, at soil boring location SB11. Soil Borings SB1 and SB2, located on the northern portion of the Property, were advanced to four feet bgs and therefore no groundwater was encountered in those borings. Groundwater on the eastern portion of the Property was observed between 10 and 11 feet bgs at soil borings locations SB3 and SB4 respectively. No staining, odors, or VOCs (based on PID screening) were observed in the sand stratum.

Refer to the logs for the soil and groundwater conditions at the specific soil boring locations. Stratification lines on the logs indicate a general transition between soil types, and are not intended to show an area of exact geological change.



#### 4.2 Results of Chemical Analyses

The results from chemical analyses of soil and groundwater samples are summarized in Tables 1 and 2. The chemical analyses results in Tables 1 and 2 were compared to the Part 201 generic residential cleanup criteria to evaluate environmental liability management for the prospective purchaser. Copies of the laboratory chemical analysis reports are attached in Appendix B.

#### Results for Chemical Analyses of Soil Samples

The results of the chemical analysis of soil samples demonstrated that zinc and cyanide were present in soil at concentrations in excess of the Part 201 Groundwater Surface Water Interface Protection Criteria (GSIP). Concentrations of zinc and cyanide in soil samples collected from SB3 and SB11, respectively, exceed GSIP. In SME's opinion, the zinc in the soil sample collected from SB3 exceeding the GSI criteria does not warrant the Property being designated a "facility" pursuant to Part 201 of Michigan Act 451. The zinc concentrations at the Property are representative of background levels in southeastern Michigan. Zinc was measured in soil sample SB3-S2 above Part 201 residential drinking water protection and GSI criteria (170,000 µg/kg). Based on a t-test statistical analysis of the Property data and the background data set for southeast Michigan, there is no significant differences in the data set. In SME's opinion, zinc concentrations in the soils on the Property are representative of background levels in southeastern Michigan.

An analysis of the data demonstrates the zinc at SB3 does not represent impact from anthropogenic sources and as such, does not warrant the Property being designated a "facility." In addition to this analysis, the pathway would not be relevant at the Property. The pathways for zinc in soil to reach a surface water body is either by leaching to groundwater and then groundwater migration to the surface water body, or into a storm sewer that flows to a surface water body. The zinc in soil would not pose a risk to surface water bodies for the following reasons:

- Zinc was not detected above target method detection levels in any of the groundwater samples collected from the Property. Therefore, it does not appear that zinc is leaching from the soil into groundwater.
- The nearest surface water body is an intermittent stream, located approximately 1,800 feet to the south of the Property. Based on the distance of the nearest surface water body, it is unlikely that zinc, if it reached groundwater would reach this surface water body.



- The one sample containing zinc above the criteria is the only sample at the Property that exceeded the criteria, indicating the extent of soil containing zinc that could pose a risk to groundwater is small and not a significant threat to groundwater.
- There is no possibility that groundwater can infiltrate the storm sewers or the utility corridors, as the invert depth of the storm sewers in the area of SB3 (3.2 to 4.2 feet) is well above groundwater in this area, which is encountered at a depth 10 feet bgs in this area.

The cyanide in soil at SB11 that exceeds the GSIP criteria does not warrant the Property being designated a facility for the following reasons:

- Cyanide was not detected above target method detection levels in any of the groundwater samples collected from the Property, demonstrating the cyanide is not leaching to groundwater.
- The one sample containing cyanide above the criteria is the only sample at the Property that exceeded the criteria, indicating the extent of soil containing cyanide that could pose a risk to groundwater is small and not a significant threat to groundwater.
- There is no possibility that groundwater can infiltrate the storm sewers or the utility corridors as the invert depth of the storm sewers in the area of SB11 (10.3 feet) is well above groundwater in this area, which is encountered at a depth 12 feet bgs in this area.

#### 4.3 QA/QC Evaluation

The laboratory case narratives and soil RLs are provided in the laboratory chemical analysis reports in Appendix B. No VOCs were measured in the trip blank, methanol blank, equipment blank, or field blank samples at concentrations greater than the RLs. The soil results from the duplicate sample collected at SB8 showed excellent agreement with respect to the metals with a relative percent difference ranging from 3% to 29% depending on the metal. The soil results from the duplicate sample collected at SB10 also showed agreement with respect to the metals with a relative percent difference ranging from 9% to 75% depending on the metal. Analytes, excluding metals, in duplicate and original soil samples from soil borings SB8 and SB10 were not detected above laboratory reporting limits. The duplicate groundwater samples



collected at soil boring locations SB8 and SB10 showed excellent agreement with respect to the metals with a maximum relative percent difference below 7%, with the exception of copper in soil Boring SB8. Copper was not detected in the original groundwater sample for SB8 and was measured at  $(4.1 \ \mu g/L)$  in the duplicate sample, which is less than half the most restrictive Part 201 residential cleanup criteria for copper in groundwater of  $(13 \ \mu g/L)$ . Analytes, excluding metals, in duplicate and original groundwater samples from soil borings SB8 and SB10 were not detected above laboratory reporting limits.



#### 5.0 CONCLUSIONS

The available assessment data revealed no evidence of environmental impact of soil or groundwater on the Property at levels above Part 201 generic residential use criteria with the exception of zinc and cyanide in soil above GSIP criteria. As presented in Section 4.2 of this report, in SME's opinion, the soil and groundwater data does not support the conclusion that the Property is a "facility" as defined by Part 201 of Michigan Act 451.

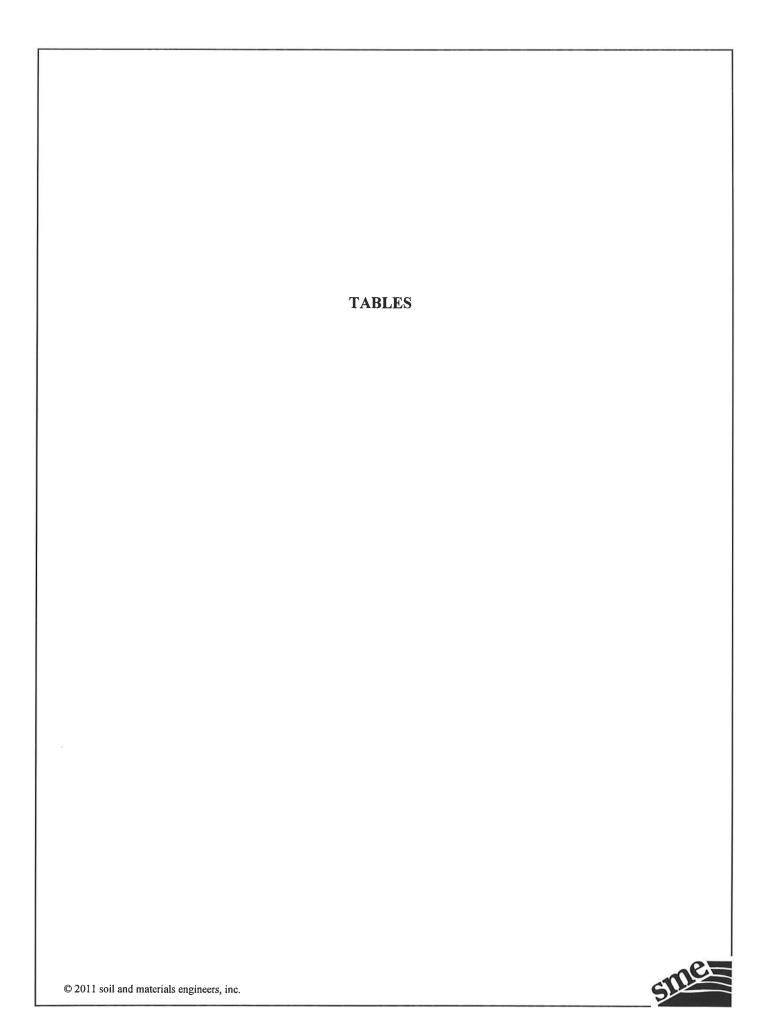


#### 6.0 GENERAL COMMENTS

The conclusions in this Phase II ESA report are based on information obtained from the area of investigation only as described in this report. The assessment was designed for the purposes described herein and was not designed as a complete characterization of the subsurface conditions at the Property. SME cannot attest to the possibility that other regulated constituents are present outside the evaluated area and within the Property boundary. If additional surface, subsurface, or chemical data become available after the date of issue of this report, the conclusions contained in this report may require modification after SME has reviewed the additional information. This review by SME of additional information would be conducted upon receipt of a request from the client. SME's conclusions are based on interpretation of the aforementioned regulations. The MDEQ interpretation may vary.

In the process of obtaining information in preparation of this letter report, procedures were followed that represent reasonable practices and principles in a manner consistent with that level of care and skill ordinarily exercised by members of this profession currently practicing under similar conditions.





#### TABLE NO. 1 SOIL SAMPLE RESULTS Page 1 of 1 SME Project No. PE54232D-06

			Gro	undwater Prote	ection	Indoor Air		Ambien	ıt Air (Y)		Direct	Contact	1											
Constituent*	Chemical Abstract	Statewide Default	Drinking Water	Groundwater Surface Water	Groundwater Contact	Soil Volatilization to Indoor Air	Infinite Source Volatile Soil	Finite VSIC	Finite VSIC for 2 Meter	Particulate Soil	Direct Contact	Soil Saturation	Sample Identification	SB1-S1	SB2-S1	SB3-S2	SB4-S4	SB6-S1	SB7-S1	SB8-S1	SB8-S1 DUP 1-S	SB10-S1	SB10-S1 DUP2-S	SB11-S1
*(Refer to detailed laboratory report for method	Service	Background	Protection Criteria &	Interface Protection	Protection Criteria &	Inhalation	Inhalation Criteria	Source	Source	Inhalation Criteria &	Criteria &	Concentratio n Screening	Sample Depth (feet bgs)	0-2	0-2	2-4	6-8	0-2	0-2	0-2	0-2	0-2	0-2	0-2
reference data)	Number	Levels	RBSLs	Criteria & RBSLs	RBSLs	Criteria & RBSLs	(VSIC) & RBSLs	Thickness	Thickness	RBSLs	RBSLs	Levels	Collect Date	5/16/2011	5/16/2011	5/16/2011	5/10/2011	5/10/2011	5/10/2011	5/10/2011	5/10/2011	5/16/2011	5/16/2011	5/16/2011
													REC Addressed		Possible Fill			8 -	ng Oil UST / Nursery Operations		Heating Oil UST / Nursery Operations / Possible Fill			Nursery Operations / Possible Fill
Volatiles																								
Dibromochloropropane	96-12-8	NA	10	ID	1,200	1,200	13,000	13,000	13,000	13,000,000	1,200	1,200		<11	<11	<12	<11	<11	<11	<11	<11	<11	<11	<11
Ethylene dibromide	106-93-4	NA	20	110	500	670	1,700	1,700	3,300	14,000,000	92	890,000		<20	<20	<20	<22	<23	<22	<20	<22	<20	<20	<20
Semivolatiles, PAHs																								
Fluoranthene	206-44-0	NA	730,000	5,500	730,000	1,000,000,000	740,000,000	740,000,000	740,000,000	9,300,000,000	46,000,000	NA		<330	<330	380	<330	<330	<330	<330	<330	<330	<330	<330
Metals																								
Arsenic	7440-38-2	5,800	5,800	5,800	2,000,000	NLV	NLV	NLV	NLV	720,000	7,600	NA		1,800	2,000	4,000	NA	2,400	1,900	2,200	2,300	2,900	4,000	3,900
Barium	7440-39-3	75,000	1,300,000	440,000	1,000,000,000	NLV	NLV	NLV	NLV	330,000,000	37,000,000	NA		5,100	4,700	72,000	NA	NA	NA	6,100	5,900	9,700	17,000	25,000
Cadmium	7440-43-9	1,200	6,000	3,600	230,000,000	NLV	NLV	NLV	NLV	1,700,000	550,000	NA		53	< 50	780	NA	NA	NA	50	56	150	180	260
Chromium, Total	7440-47-3	18,000 (total)	1,000,000,000	3,000,000,000	1,000,000,000	NLV	NLV	NLV	NLV	330,000,000	790,000,000	NA		2,700	3,000	19,000	NA	NA	NA	4,400	3,400	6,100	6,700	7,600
Chromium VI	18540-29-9	NA	30,000	3,300	140,000,000	NLV	NLV	NLV	NLV	260,000	2,500,000	NA		<2,800	<2,700	<2,900	NA	NA	NA	<2,700	<2,700	<2,800	<2,800	<2,800
Copper	7440-50-8	32,000	5,800,000	73,000	1,000,000,000	NLV	NLV	NLV	NLV	130,000,000	20,000,000	NA		4,400	4,800	32,000	NA	5,300	5,100	4,300	4,500	5,500	7,600	8,700
Lead	7439-92-1	21,000	700,000	2,800,000	ID	NLV	NLV	NLV	NLV	100,000,000	400,000	NA		2,000	2,600	130,000	NA	8,000	9,500	2,800	2,300	7,400	270,000	20,000
Mercury, Total	7439-97-6	130	1,700	130	47,000	48,000	52,000	52,000	52,000	20,000,000	160,000	NA		<50	<50	<50	NA	NA	NA	<50	<50	< 50	<50	< 50
Selenium	7782-49-2	410	4,000	410	78,000,000	NLV	NLV	NLV	NLV	130,000,000	2,600,000	NA		<200	210	350	NA	NA	NA	230	<200	280	200	<200
Silver	7440-22-4	1,000	4,500	1,000	200,000,000	NLV	NLV	NLV	NLV	6,700,000	2,500,000	NA		<100	<100	350	NA	NA	NA	<100	<100	<100	<100	<100
Zinc	7440-66-6	47,000	2,400,000	170,000	1,000,000,000	NLV	NLV	NLV	NLV	ID	170,000,000	NA		12,000	13,000	390,000	NA	NA	NA	13,000	14,000	21,000	31,000	70,000
Pesticides																								
alpha-Hexachlorocyclohexane	319-84-6	NA	18	ID	2,500	30,000	12,000	22,000	25,000	1,700,000	2,600	NA		NA	NA	NA	NA	<23	<22	<21	<22	<22	<22	<23
Lindane	58-89-9	NA	20	20	7,100	ID	ID	ID	ID	ID	8,300	NA		NA	NA	NA	NA	<23	<22	<21	<22	<22	<22	<23
Nonspecific Grouping																								
Cyanide	57-12-5	390 (total)	4,000	100	250,000	NLV	NLV	NLV	NLV	250,000	12,000	NA		NA	NA	NA	NA	<200	<200	<200	<200	<200	<200	570
Sulfate	14808-79-8	NA	5,000,000	NA	ID	NLV	NLV	NLV	NLV	ID	ID	NA		NA	NA	NA	NA	<10,000	16,000	<10,000	<10,000	<10,000	11,000	15,000

#### Notes:

- 1. Concentrations reported in micrograms per kilogram (ug/kg).
- 2. Criteria taken from RRD Operational Memorandum No. 1, Table 2. Soil: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening levels, dated March 25, 2011.
- 3. Only detected analytes or analytes with reporting limits above criteria are displayed in the table. See Analytical for full list of analyzed parameters. Cyanide and Sulfate were included in the table because of their non-specific grouping.
- 4. Detected results shown in BOLD. Results exceeding one or more criteria are shaded, as are the criteria.
- 5. CS Criterion is specific to individual constituent.
- 6. <RL Analytical result was below laboratory reporting limit(s).
- 7. Bold <RL results have an elevated reporting limit that exceeds one or more criteria.
- 8. ID Insufficient data to develop criteria.
- 9. NA = Not applicable or not analyzed.
- 10. NLV Not likely to volatilize.
- 11. \* = GSI Protection was calculated for the indicated metals using the MDNRE spreadsheet for calculating GSI. A default water hardess value of 150 mg/kg as CaCO3 was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
- 12. Italicized = the respective criterion was below the Statewide Default Background Level (SDBL) and therefore the value defaulted to the SDBL value.

#### TABLE NO. 2 GROUNDWATER SAMPLE RESULTS Page 1 of 2 SME Project No. PE54232D-06

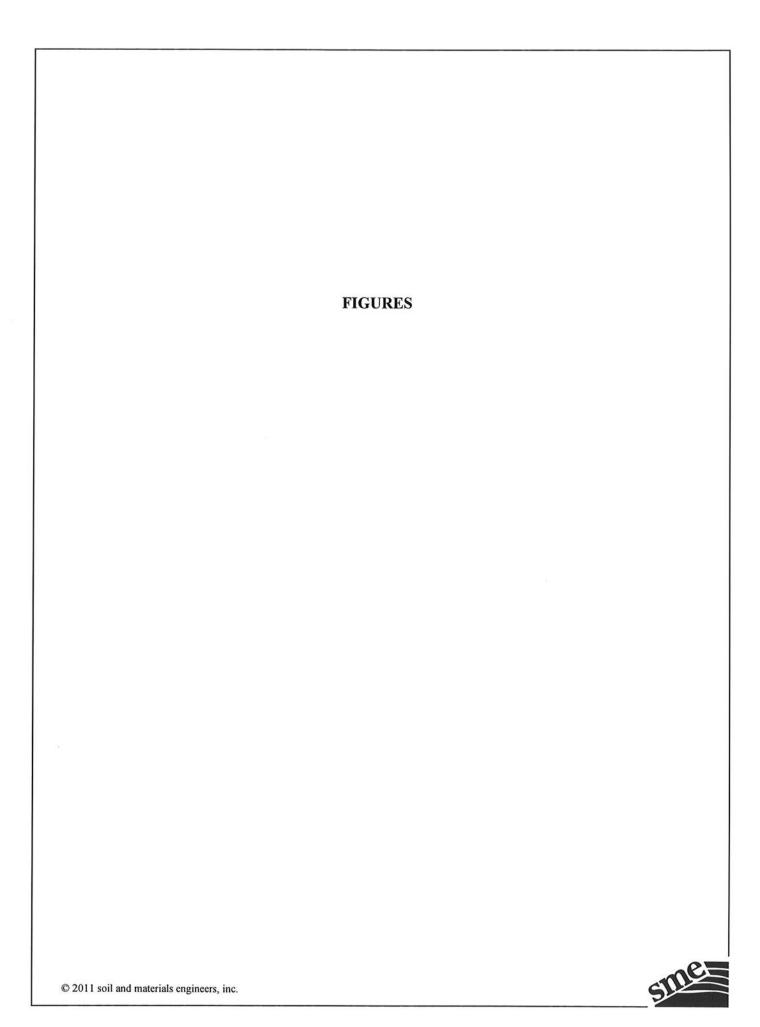
Constituent*  *(Refer to detailed laboratory report for method	Chemical Abstract Service Number	Residential & Commercial Drinking Water Criteria &	Groundwater Surface Water Interface Criteria &	Residential Groundwater Volatilization to Indoor Air Inhalation	Groundwater Contact Criteria & RBSLs	Sample Identification Depth	SB5-GW 8.5 - 13.5	SB8-GW 8.5 - 13.5	SB8-GW DUP 1 (GW) 8.5 - 13.5	SB9-GW 10 - 15	SB10-GW 10 - 15	DUP2-GW
reference data)		RBSLs	RBSLs	Criteria & RBSLs		Collect Date	5/10/2011	5/10/2011	5/10/2011	5/10/2011	5/16/2011	5/16/2011
						REC Addressed	Northwest Adjoining Former Filling Station & Auto Repair	Possible Fill / Heating Oil UST / Nursery Operations	Possible Fill / Heating Oil UST / Nursery Operations	Heating Oil UST / Southwest Adjoining Former Filling Station	UST / Nurser	/ Heating Oil y Operations
Volatiles												
Dibromochloropropane	96-12-8	0.2	ID	1,200	390		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylene dibromide	106-93-4	0.1	5.7	2,400	25		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Semivolatiles, PAHs												
SVOCs	CS	CS	CS	CS	CS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Metals												
Arsenic	7440-38-2	10	10	NLV	4,300		NA	7.6	8.1	NA	< 5.0	< 5.0
Barium (B)	7440-39-3	2,000	670	NLV	14,000,000		NA	120	120	NA	210	210
Copper (B)	7440-50-8	1,000	13	NLV	7,400,000		NA	<4.0	4.1	NA	<4.0	<4.0
Mercury, Total	7439-97-6	2.0	0.0	56	56		NA	< 0.20	< 0.20	NA	< 0.20	< 0.20
Pesticides												
Dinoseb	88-85-7	7.0	1.0	NLV	7,000		NA	< 5.0	< 5.0	NA	< 5.0	< 5.0
Nonspecific Grouping												
Cyanide (P,R)	57-12-5	200	5.2	NLV	57,000		NA	< 5.0	< 5.0	NA	< 5.0	< 5.0
Sulfate	14808-79-8	250,000	NA	NLV	ID		NA	140,000	140,000	NA	180,000	180,000

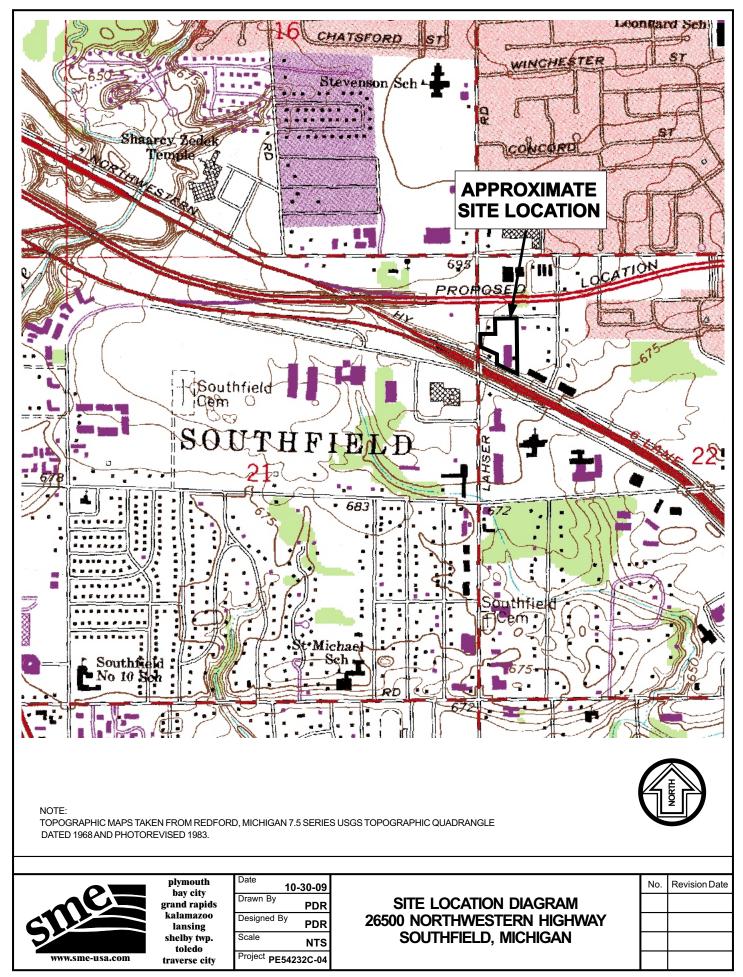
Notes are included on back page.

# TABLE NO. 2 GROUNDWATER SAMPLE RESULTS Page 2 of 2 SME Project No. PE54232D-06

#### **Notes:**

- 1. Concentrations reported in micrograms per liter (ug/L).
- 2. Criteria taken from RRD Operational Memorandum No. 1, Table 1. Groundwater: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening levels, dated March 25, 2011.
- 3. Only detected analytes or analytes with reporting limits above criteria are displayed in the table. See Analytical for full list of analyzed parameters. Cyanide and Sulfate were included in the table because of their non-specific grouping.
- 4. Detected results shown in BOLD. Results exceeding one or more criteria are shaded, as are the criteria.
- 5. CS Criterion is specific to individual constituent.
- 6. <RL Analytical result was below laboratory reporting limit(s).
- 7. Bold <RL results have an elevated reporting limit that exceeds one or more criteria.
- 8. ID Insufficient data to develop criteria.
- 9. NA = Not applicable or not analyzed.
- 10. NLV Not likely to volatilize.
- 11. \* = GSI Protection was calculated for the indicated metals using the MDNRE spreadsheet for calculating GSI. A default water hardess value of 150 mg/kg as CaCO3 was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
- 12. *Italicized* = the respective criterion was below the Statewide Default Background Level (SDBL) and therefore the value defaulted to the SDBL value.
- 13. \*\* = Total xylenes was calculated as the sum of o-xylene and m,p-xylene concentrations.





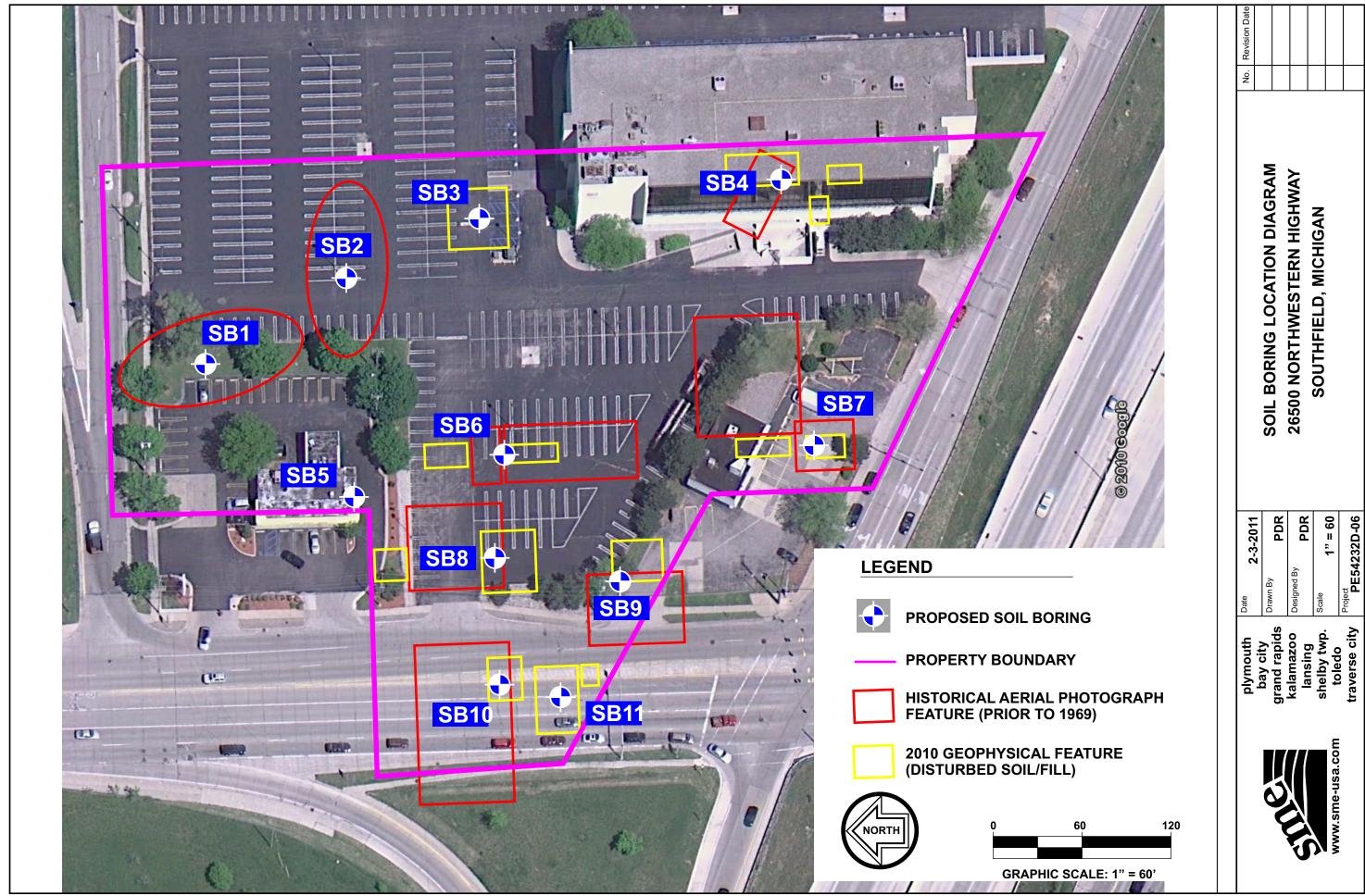
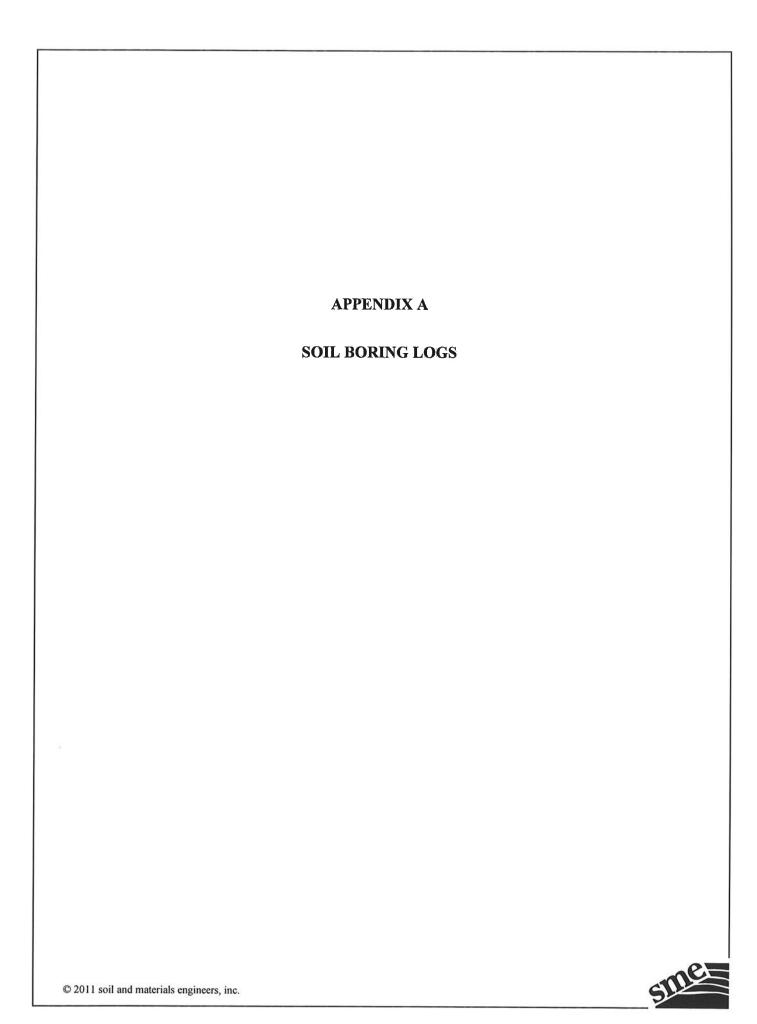


Figure No. 2





PROJECT NAME: 26500 NORTHWESTERN HWY

A/E: BORING SB1

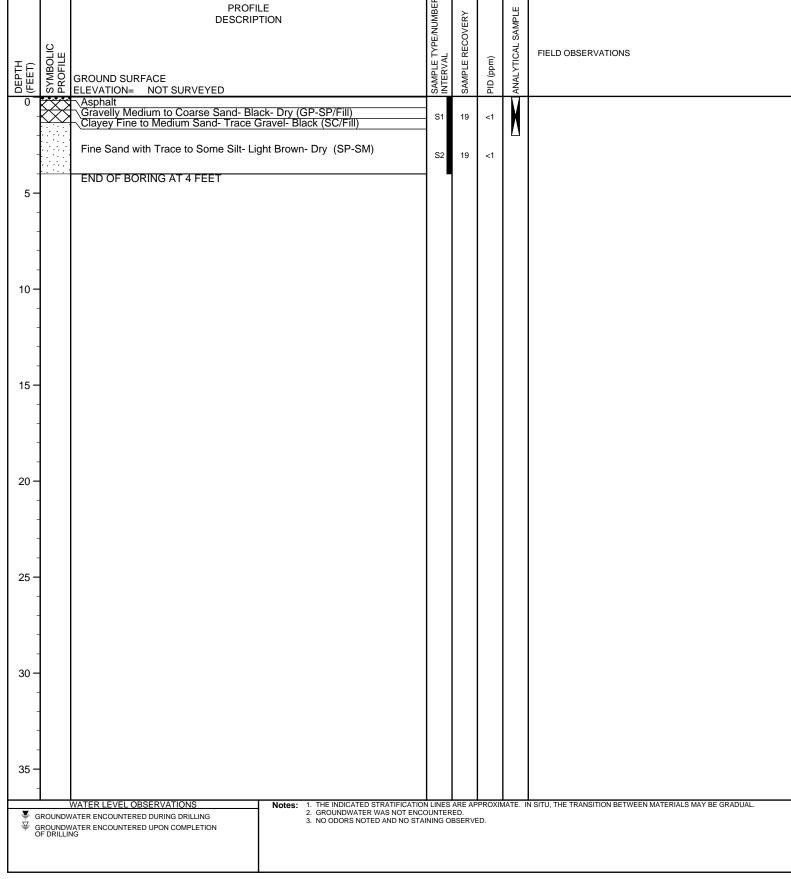
PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS

START: 05/10/2011

END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1



DRILLER: SME

WATER LEVEL DURING DRILLING:

DRILL METHOD: DIRECT PUSH

BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME: 26500 NORTHWESTERN HWY

A/E: BORING SB2

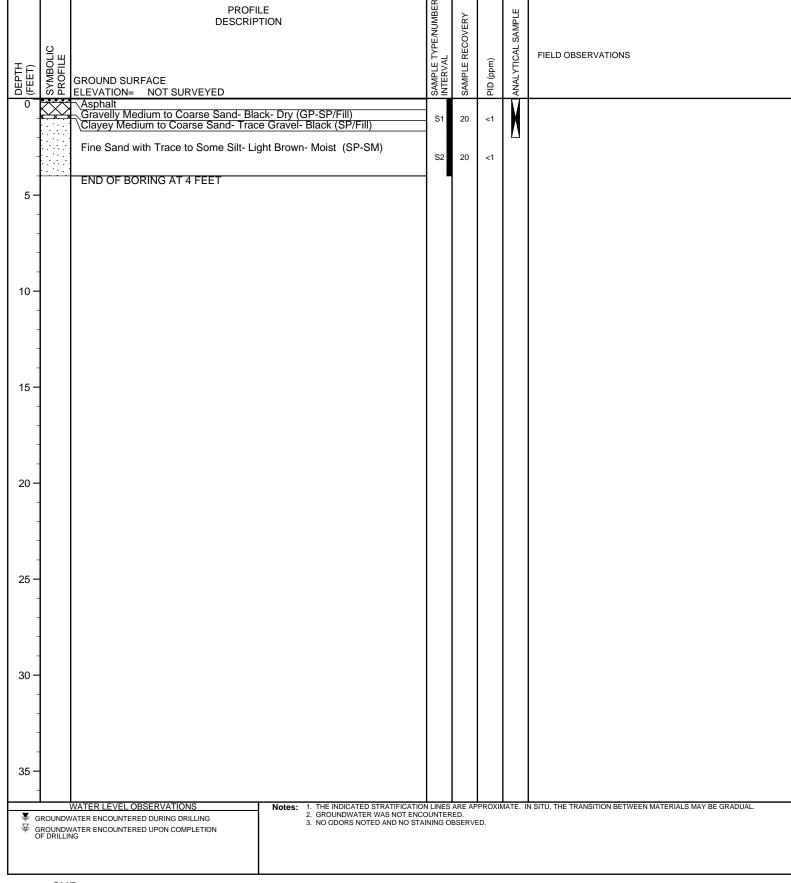
PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS

START: 05/10/2011

END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1



DRILLER: SME

WATER LEVEL DURING DRILLING:

DRILL METHOD: DIRECT PUSH

BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME: 26500 NORTHWESTERN HWY A/E: BORING SB3

PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS

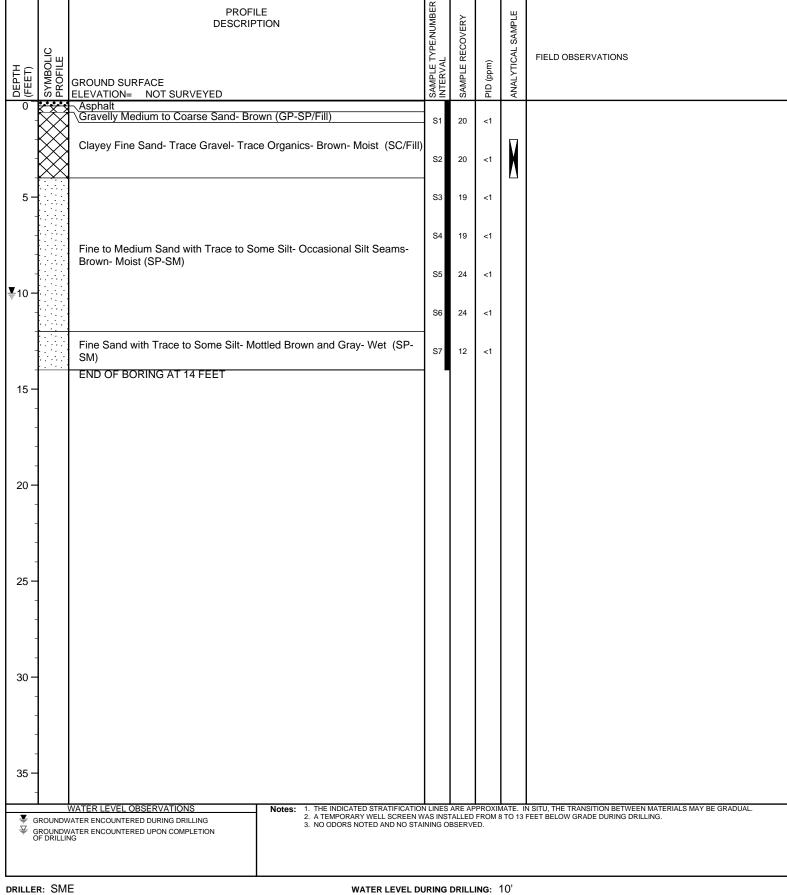
START: 05/10/2011

END: 05/10/2011

CLIENT:

PROJECT NUMBER: PE54232D-06

SHEET: 1



DRILL METHOD: DIRECT PUSH

WATER LEVEL DURING DRILLING: 10'
BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME: 26500 NORTHWESTERN HWY

A/E: BORING SB4

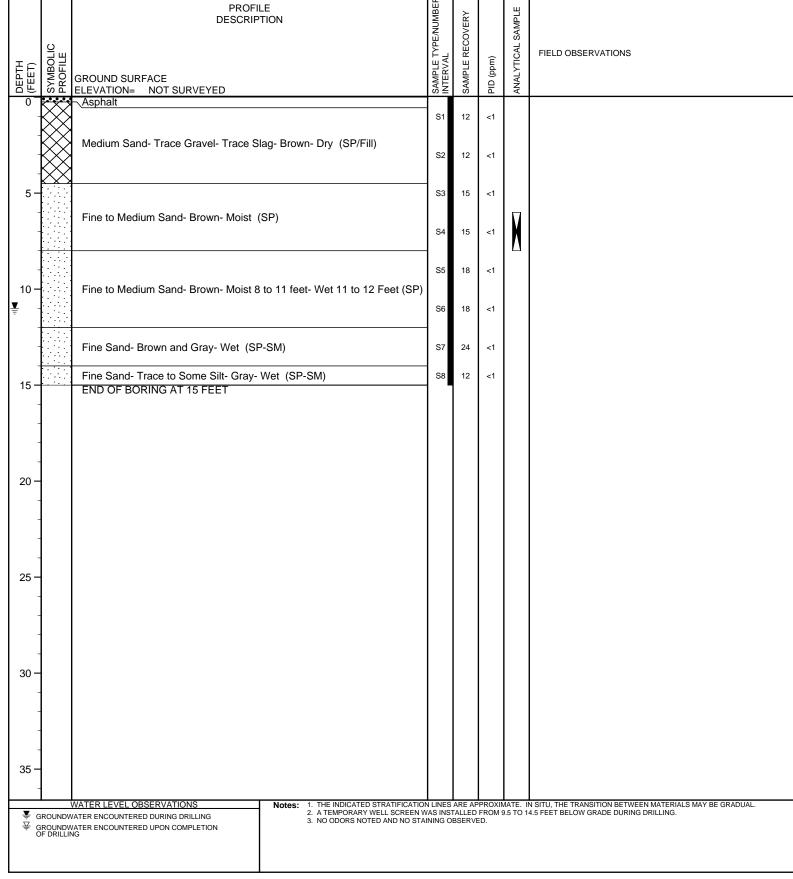
PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS

START: 05/10/2011

END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1



DRILLER: SME
DRILL METHOD: DIRECT PUSH

WATER LEVEL DURING DRILLING: 11'
BACKFILL METHOD: SOIL CUTTINGS



PROJECT LOCATION: SOUTHFIELD, MICHIGAN

# soil and materials engineers, inc.

**START:** 05/10/2011

END: 05/10/2011

**BORING SB5** 26500 NORTHWESTERN HWY **PROJECT NAME:** BY: SS

PROJECT NUMBER: PE54232D-06 SHEET: 1 CLIENT:

DEPTH	(FEE I )	S F	PROFILE DESCRIPTION  GROUND SURFACE ELEVATION= NOT SURVEYED	SAMPLE TYPE/NUMBER INTERVAL	SAMPLE RECOVERY	PID (ppm)	ANALYTICAL SAMPLE	FIELD OBSERVATIONS					
0	) ]••	• • • •	Asphalt  Medium Sand- Light Brown- Dry (SP)	S1	12	<1							
			Fine to Medium Sand- Trace Organics- Brown- Moist (SP)	S2	12	<1							
5	; _ - -		Fine to Medium Sand- Brown- Moist (SP)	S3	18	<1							
			<b>,</b> ,	S4	18	<1							
10	-  -  -		Fine Sand with Trace to Some Silt- Brown and Gray- Moist (SP-SM)	S5	24	<1							
			Fine Sand with Trace to Some Silt- Gray- Wet (SP-SM)	S6 S7	24 24	<1							
15			END OF BORING AT 14 FEET	o'	27	7							
	-												
	-												
20	, -												
	-												
	_												
25	; <del>-</del>   -												
	-												
30	, _												
	-												
35													
<u>₹</u>	GRO	DUNDW	2. A TEMPORARY WELL SCREEN V	Notes: 1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE. IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL. 2. A TEMPORARY WELL SCREEN WAS INSTALLED FROM 8.5 TO 13.5 FEET BELOW GRADE DURING DRILLING. 3. NO ODORS NOTED AND NO STAINING OBSERVED.									
	OF E	DRILLÍŇ	ig										
DRILI	FR:	SME	U WATER LEVEL DI	WATER LEVEL DURING DRILLING: 9'									

DRILLER: SME DRILL METHOD: DIRECT PUSH WATER LEVEL DURING DRILLING: 9'

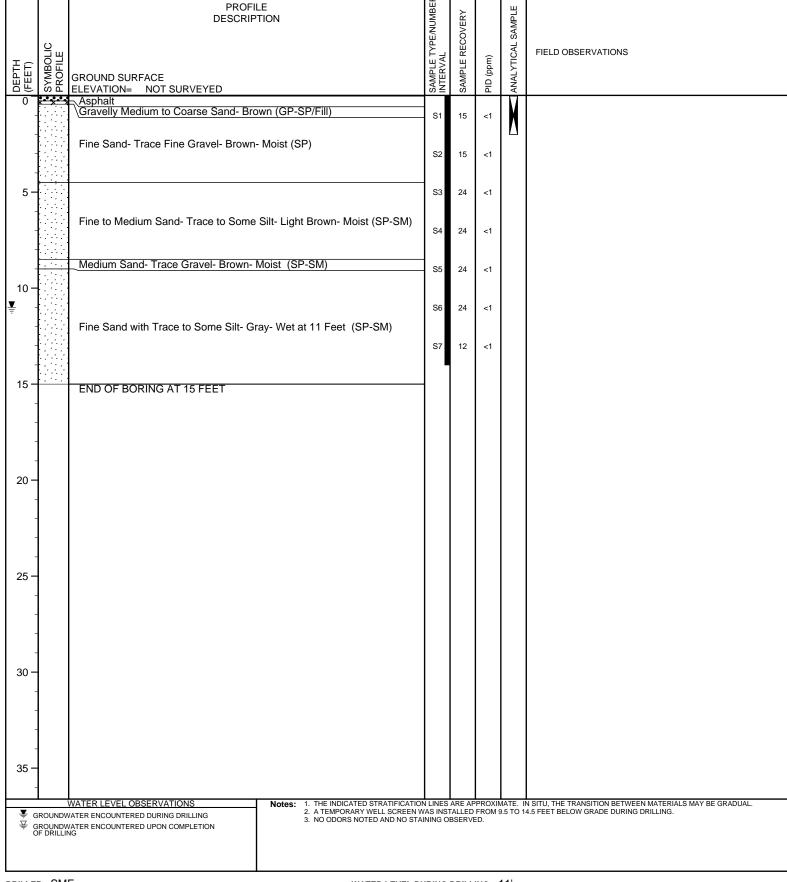
BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME:26500 NORTHWESTERN HWYA/E:BORING SB6

PROJECT LOCATION: SOUTHFIELD, MICHIGAN BY: SS START: 05/10/2011 END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1



DRILLER: SME

WATER LEVEL DURING DRILLING: 11

DRILL METHOD: DIRECT PUSH

BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME: 26500 NORTHWESTERN HWY

A/E: BORING SB7

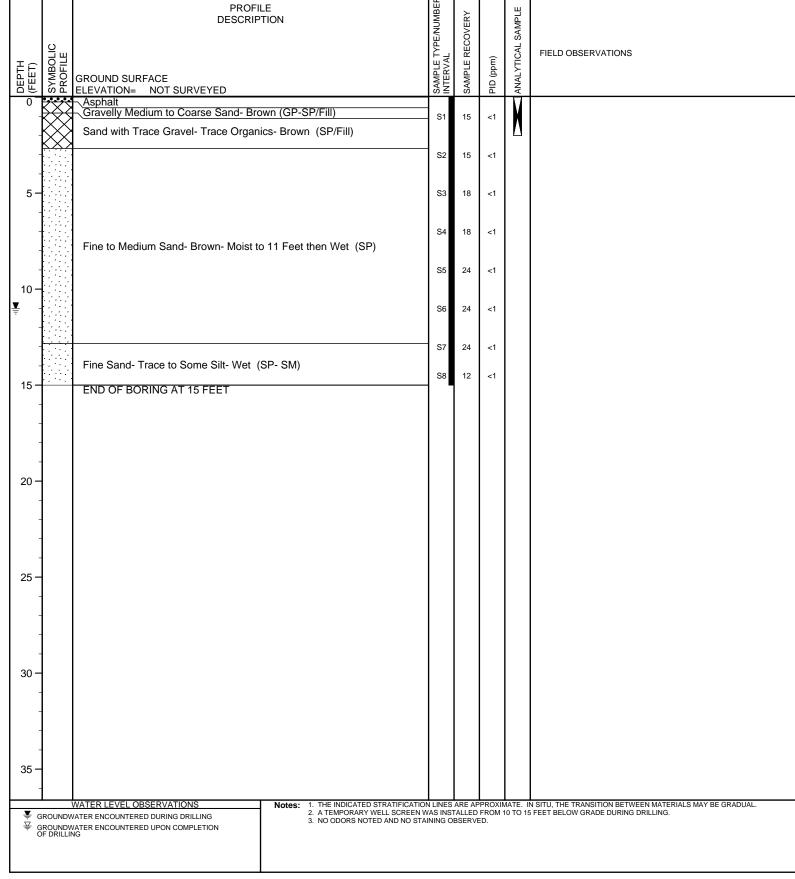
PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS

START: 05/10/2011

END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1



DRILLER: SME
DRILL METHOD: DIRECT PUSH

WATER LEVEL DURING DRILLING: 11'
BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME: 26500 NORTHWESTERN HWY A/E: BORING SB8

PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS START: 05/10/2011 END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1 **PROFILE** SAMPLE RECOVERY DESCRIPTION SAMPL SYMBOLIC PROFILE FIELD OBSERVATIONS **GROUND SURFACE** PD ELEVATION= NOT SURVEYED Asphalt Sandy Clay with Trace Asphalt Fragments- Brown- Moist (CL/Fill) Clayey Fine Sand- Trace Gravel- Brown- Moist (SC/Fill) S1 16 <1 S2 16 <1 Fine to Medium Sand- Light Brown- Moist (SP) 20 20 24 Fine to Medium Sand with Trace to Some Silt- Gray and Brown- Wet 10 (SP-SM) S6 24 Fine Sand with Trace to Some Silt- gray- Wet (SP-SM) S7 24 12 15 **END OF BORING AT 15 FEET** 20 25 30 35 THE INDICATED STRATIFICATION LINES ARE APPROXIMATE. IN SITU. THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL WATER LEVEL OBSERVATIONS A TEMPORARY WELL SCREEN WAS INSTALLED FROM 8.5 TO 13.5 FEET BELOW GRADE DURING DRILLING.
 NO ODORS NOTED AND NO STAINING OBSERVED. GROUNDWATER ENCOUNTERED DURING DRILLING GROUNDWATER ENCOUNTERED UPON COMPLETION OF DRILLING

DRILLER: SME

DRILL METHOD: DIRECT PUSH

WATER LEVEL DURING DRILLING: 8.5

BACKFILL METHOD: SOIL CUTTINGS



**BORING SB9** 26500 NORTHWESTERN HWY **PROJECT NAME:** 

PROJECT LOCATION: SOUTHFIELD, MICHIGAN BY: SS **START:** 05/10/2011 END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION  GROUND SURFACE ELEVATION= NOT SURVEYED	SAMPLE TYPE/NUMBER INTERVAL	SAMPLE RECOVERY	PID (ppm)	ANALYTICAL SAMPLE	FIELD OBSERVATIONS			
0		Asphalt Fine to Medium Sand- Trace Gravel- Trace Brick Fragments- Trace Clay-		18	<1	·				
		Brown (SP/Fill)								
			S2	18	<1					
5 -			S3	24	<1					
		Fine Sand with Trace to Some Silt- Brown- Moist (SP-SM)	S4	24	<1					
			04		,					
10 -			S5	24	<1					
<u>₹</u>			S6	24	<1					
		Fine Conducith Trace to Come City Presum West (CD CM)	S7	0.4						
		Fine Sand with Trace to Some Silt- Brown- Wet (SP-SM)		24	<1					
15 -		END OF BORING AT 15 FEET	S8	12	<1					
20 -	]									
25 -										
30 -										
25										
35 -										
¥ (	GROUNDWATER ENCOUNTERED DURING DRILLING  2. A TEMPORARY WELL SCREEN 3. NO ODORS NOTED AND NO ST				FROM 1	MATE. I	N SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL. 5 FEET BELOW GRADE DURING DRILLING.			
¥ (	GROUNDV OF DRILLI	VATER ENCOUNTERED UPON COMPLETION IN INC. INC. SHOULD AND NO STA								
DRILLE	R: SM	E WATER LEVEL DU	URING DRILLING: 11'							

DRILL METHOD: DIRECT PUSH

BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME: 26500 NORTHWESTERN HWY

A/E: BORING SB10

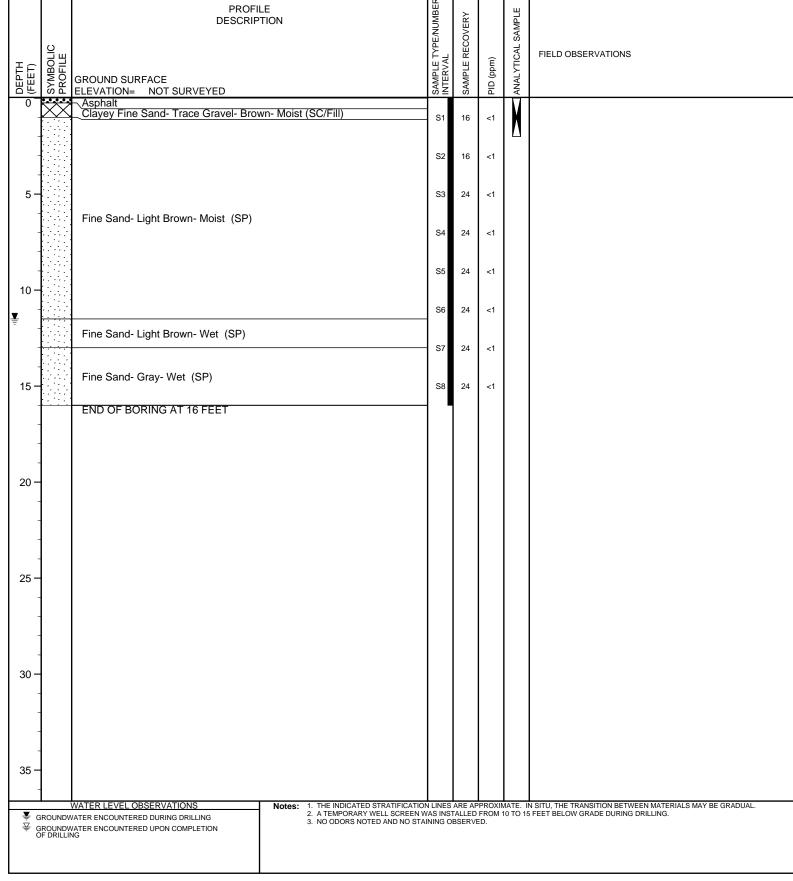
PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS

START: 05/10/2011

END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1



DRILLER: SME
DRILL METHOD: DIRECT PUSH

WATER LEVEL DURING DRILLING: 11.5'
BACKFILL METHOD: SOIL CUTTINGS



PROJECT NAME: 26500 NORTHWESTERN HWY

A/E: BORING SB11

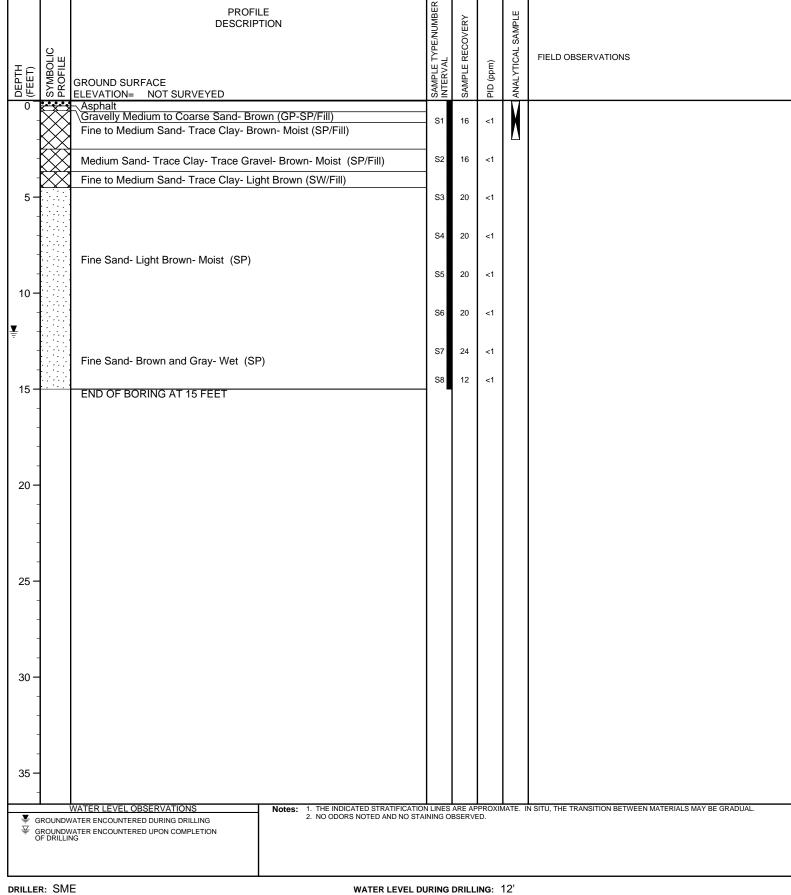
PROJECT LOCATION: SOUTHFIELD, MICHIGAN

BY: SS

START: 05/10/2011

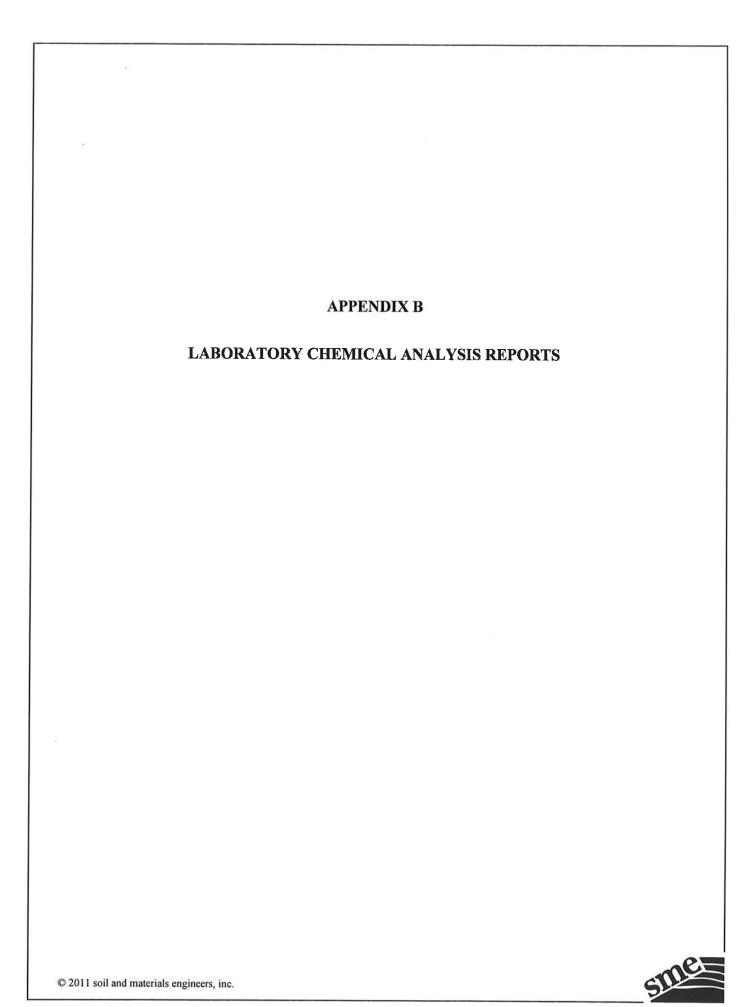
END: 05/10/2011

CLIENT: PROJECT NUMBER: PE54232D-06 SHEET: 1



DRILL METHOD: DIRECT PUSH

WATER LEVEL DURING DRILLING: 12'
BACKFILL METHOD: SOIL CUTTINGS





May 19, 2011

Case Narrative

Customer: SME

Project Identification: 26500 Northwestern Highway/PE54232D-06

Fibertec Project Number: 44476

### Sample Collection/ Receipt

The following samples were collected on May 10, 2011 and received by Fibertec on May 11, 2011.

10 Soil Samples (including a blank, MS/MSD and 2 samples on hold)

12 Water Samples (including blanks, MS/MSD and 3 samples on hold)

All samples were received on ice and in good condition.

### Analysis

Analyses were conducted in accordance with chain of custody and within hold times.

All applicable quality assurance / quality control parameters were within acceptance limits unless otherwise noted.

### Metals

Samples 44476-005 (Dup 1), 44476-006 (SB8-S1), 44476-007 (SB8-S1 MS) and 44476-008 (SB8-S1 MSD) have estimated results for zinc. Zinc was found in the blank, results may be biased high.

### Pesticides

Sample 44476-005 (Dup 1) and 44476-006 (SB8-S1) have estimated results for 4,4-DDE and chlordane, high continuing calibration verification. Sample 44476-003 (SB6-S1) has estimated results for 4,4-DDE, 4,4-DDT and chlordane, high continuing calibration verification. Samples 44476-007 (SB8-S1 MS) and 44476-008 (SB8-S1 MSD) have estimated results for aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, heptachlor epoxide and endosulfan I, high continuing calibration verification. Samples 44476-016 (SB8-GW MS) and 44476-017 (SB8-GW MSD) have estimated results for aldrin, alpha-BHC, gamma-BHC, delta-BHC, and heptachlor epoxide, high continuing calibration verification. All of these results may be biased high.

### <u>Herbicides</u>

Samples 44476-016 (SB8-GW MS) and 44476-017 (SB8-GW MSD) have estimated results for 2,4-D and 2,4,5-TP, high continuing calibration verification. Results may be biased high.

### **Volatiles**

Samples 44476-001 (SB4-S4), 44476-003 (SB6-S1), 44476-004 (SB7-S1) and 44476-005 (DUP 1) have estimated results for bromomethane, low continuing calibration verification. Results may be biased low. All water samples have estimated results for chloromethane, low continuing calibration verification and 1,1,2-trichloroethane, low laboratory control sample. Results may be biased low.

The following were reported with elevated reporting limits

Laboratory Number	Sample ID	<u>Analysis</u>	Reason for elevated RL
44476-007	SB8-S1 MS	Pesticides	Sample Matrix
44476-008	SB8-S1 MSD	Pesticides	Sample Matrix
44476-016	SB8-GW MS	Pesticides	Sample Matrix
44476-017	SB8-GW MSD	Pesticides	Sample Matrix

Sample data has been reviewed, and reported results remain valid.

V

5/19/1 Date

1914 Holloway Drive Holt, Michigan 48842 11766 Grand River Brighton, Michigan 48116

Telephone: (517) 699-0345 Telephone: (810) 220-3300 Facsimile: (517) 699-0388 Facsimile: (810) 220-3311



# **Analytical Laboratory**

Phone: 517 699 0345 Fax: 517 699 0388 Holf, MI 48842 1914 Holloway Drive

email: lab@fiberlec.us

8660 S. Mackinaw Trail Fax: 231 775 8584 Phone: 231 775 3368 Cadillac, Mi 49601

Phone: 517 699 0345 1914 Holloway Drive Industrial Hygiene Services, Inc. Hoff, MI 48842 Fax: 517 699 0382

email: asbestos@fibertec.us

Geoprobe 11766 E. Grand River

Chain of Custody # 108227

PAGE of

Fiberte Labora Tempe	Relinqu	Reling	Relinqu	Comments		200	H						0	15.00	Lab Sample	Purcha		Project	Contac	Client Name:
LAB USE ONLY: Fibertec project number: Laboratory Tracking: Temperature at Receipt:	Relinquished By:	,	Relinquished By:	ents:	<								-	5/volu	Date	Purchase Order#	SIME	Name/ Num	Contact Person:	
mber. jr ceipt:		SME follow	Shen E				9:30	9:30	Di:01	jo:to	12:10	12:10	M:20	11:20	Time		Piojes	<sub>per:</sub> 3630	ach Osuch	City of Southfield
		646	800		10	9	8	7	6	4	4	3	7	1	Client Sample #		# 12	No No	Buch	Sout
			SmE		Dup 1	Dup 1	5137-51	587-51	5136-51	386-51	SBS-55	SR5-S5	SB4-54	584-34	Client Sample Descriptor		SIME Piojes # PLSYRS2D-06	Project Name / Number 26500 Northauston Highway		hfield
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COC Revision: April 2006																	P Wipe	Wwater Sw Surface Water A Air www.aste water	S Soil Gw Ground Water	Matrix Code



**Analytical Laboratory** 

Phone: 517 699 0345 Fax: 517 699 0388 Holt, MI 48842 1914 Holloway Drive

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8660 S. Mackinaw Trail Phone: 231 775 2368 Fax: 231 775 8584 Cadillac, MI 49601

1914 Holloway Drive Phone: 517 699 0345 Holf, MI 48842 Industrial Hygiene Services, Inc. Fax: 517 699 0382

Phone: 810 220 3300 Fax: 810 220 3311 11766 E. Grand River Brighton, MI 48116 Geoprobe

> Chain of Custody # PAGE \_\_\_\_ of \_\_\_\_ 108225

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Client Name:	CHY OF	Southfield						- P	PARAMETERS	VEIE	S				Turnaround Matrix Code
Contact Person:	Deb	Osuch					0	D	20	v	7				24 hour RUSH
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# **Analytical Laboratory**

Phone: 517 699 0345 Hoff, MI 48842 1914 Holloway Drive

8660 S. Mackinaw Trail
Cadillac, MI 49601 Fax: 231 775 8584 Phone: 231 775 8368

Phone: 517 699 0345 Holf, MI 48842 Industrial Hygiene Services, Inc. Fax: 517 699 0382 1914 Holloway Drive

11766 E. Grand River Brighton, MI 48116 Phone: 810 220 3300 Fax: 810 220 3311 Geoprobe

PAGE \_\_\_\_ of \_\_\_\_

Chain of Custody # 108224

			emalt la	email: lab@fibertec.us				em	alt a	email: asbestos@fibertec.us	osem	ьепе	c.us			i		
Clent Name:	ame: (11-1	70 1	3	Suspfield		-					PAR/	PARAMETERS	RS				Tumaround	Matrix Code
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FiberteC environmental services

# Analytical Laboratory

1914 Holloway Drive 8669
Holt, MI 48842 Cac
Phone: 517 699 0345 Pho
Facc 517 699 0388 Fax

email: lab@fibertec.us

# 8660 S. Mackinaw Trail Cadillac, MI 49601 Phone: 231 775 8368 Fax: 231 775 8584

Industrial Hyglene Services, Inc. 1914 Holloway Drive Holf, MI 48842 Phone: 517 699 0345 Fax: 517 699 0382

email: asbestos@fibertec.us

Geoprobe 11766 E. Grand River Brighton, MI 48116 Phone: 810 220 3300 Fax: 810 220 3311

Chain of Custody # 108256

PAGE \_\_\_\_ of \_\_\_

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FiberteC environmental services

Phone: 517 699 0345 Holf, MI 48842 1914 Holloway Drive Fax: 517 699 0388 Analytical Laboratory 8660 S. Mackinaw Trail Phone: 231 775 5368 Cadillac, MI 49601 Fax: 231 775 8584

email: lab@fibertec.us

Fax: 517 699 0382 Phone: 517 699 0345 Holt, MI 48842 1914 Holloway Drive

emall: asbestos@fibertec.us

Industrial Hygiene Services, Inc.

11766 E. Grand River Geoprobe Brighton, MI 48116

Chain of Custody #

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Fibert eC environmental services

emall: lab@fibertec.us Phone: 517 699 0345 Holt, MI 48842 1914 Holloway Drive Fax: 517 699 0388 Analytical Laboratory 8660 S. Mackinaw Trail Phone: 231 775 2368 Cadillac, M! 49601 Fax: 231 775 8584

> Fax: 517 699 0382 Phone: 517 699 0345 Holf, MI 48842 1914 Holloway Drive

Industrial Hygiene Services, Inc.

emall: asbestos@flbertec.us

Geoprobe

11766 E. Grand River Brighton, MJ 48116

Chain of Custody #

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TERMS & CONDITIONS ON BACK

FiberteC environmental services

Holf, MI 48842 1914 Holloway Drive Analytical Laboratory 8660 S. Mackinaw Trail

Phone: 517 699 0345 Holt, MI 48842 1914 Holloway Drive Industrial Hygiene Services, Inc.

Geoprobe

11766 E. Grand River Brighton, MI 48116

Fax: 810 220 3311 Chain of Custody #

108224

		Fax: 517 699 0388 email: lab@fiberts	Fax: 517 699 0388 Fax: 231 775 8584 email: lab@fiberiec.us			en Fa	fax: 517 699 0382 emall: asbestos@fibertec.us	599 038 bestos	©ffber	lec.us			7	X 99	Fax: 810 220 3311	
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FiberteC environmental services

Analytical Laboratory

Phone: 517 699 0345 Holf, MI 48842 1914 Holloway Drive

8660 S. Mackinaw Trail Phone: 231 775 8368 Cadillac, MI 49601

email: asbestos@fibertec.us Fax: 517 699 0382 Phone: 517 699 0345 Holf, MI 48842

Geoprobe

1914 Holloway Drive

Industrial Hyglene Services, Inc.

Brighton, MI 48116

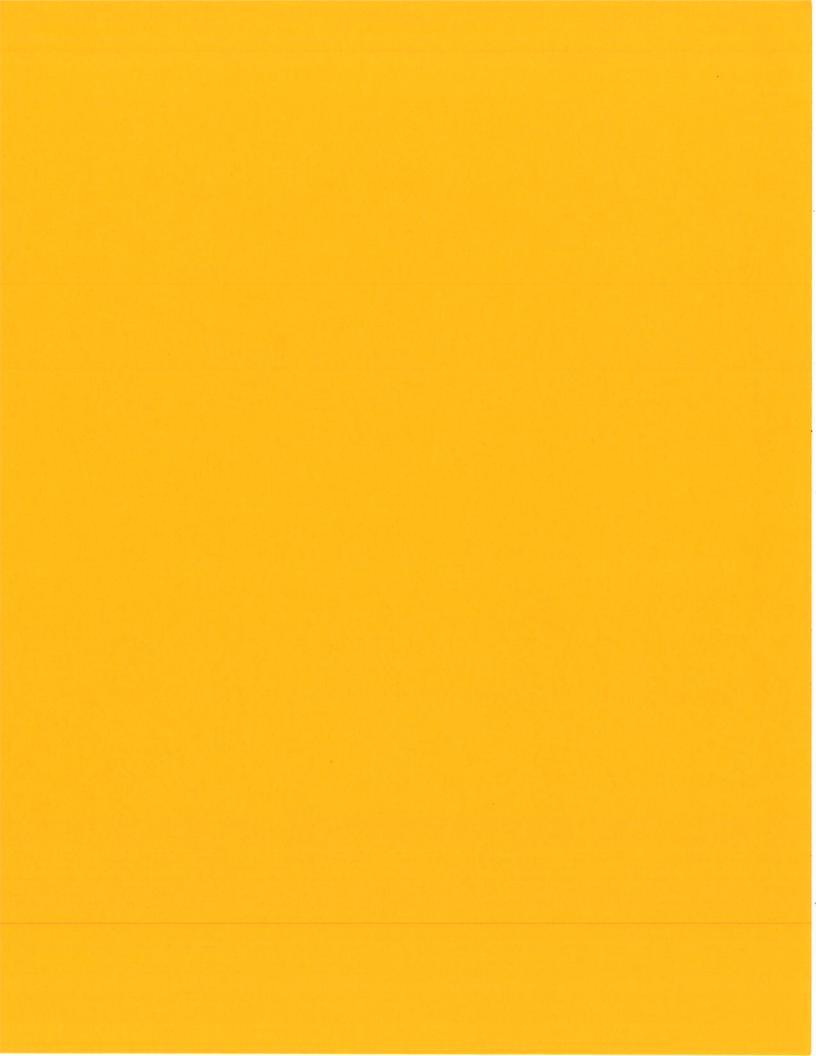
11766 E. Grand River Phone: 810 220 3300

108256 Chain of Custody #

emall: lab@fibertec.us	email: asbestos@fibertec.us	
Contact Person: Deb Osuch		Turnaround Matrix Code  24 hour RUSH (surcharge applies) S Soil GM Ground Water
Project Name / Number: 26500 Northurstern Hishway	FOR CODE	48 hour RUSH (surcharge applies) Water SW Surface Water 72 hour RUSH (surcharge
Since Proj #: PE34232 D-06	RIGHT CORNER I TAINERS D (Y/N) 8260 8270 Metals	oppliest Standard (5-7 bus. days) Other: Specify  P Wipe
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TERMS & CONDITIONS ON BACK





Thursday, May 19, 2011

Fibertec Project Number: 44476

Project Identification: 26500 Northwestern Highway /PE54232D-06

Submittal Date: 05/11/2011

Ms. Deb Osuch Soil and Materials Engineers, Inc. - Shelby Twp. 13019 Pauline Drive Shelby Township, MI 48315

Dear Ms. Osuch,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note samples will be disposed of 30 days after reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

Daryl P. Strandbergh Laboratory Director

DPS/kc

**Enclosures** 



Order: 44476 Page: 2 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB4-S4

Chain of Custody:

108227

Client Project Name: 26

26500 Northwestern Highway

Sample No: 1

Collect Date:

05/10/11

\_\_\_\_

Client Project No:

PE54232D-06 Sample Matrix: Soil/Solid

Collect Time:

11:20

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)				AI	iquot ID: 44	476-001A	Matrix: Soil	/Solid	Analyst: BMG
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	10		%	0.1	1.0	05/13/11	MC110513	05/16/11	MC110513

Volatile Organic Compounds (VOCs) by G	C/MS, 5035 (E	PA 503	85/EPA 826	OB) AI	iquot ID: 444	<del>176-001</del>	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/13/11	V311E13A	05/13/11	V311E13A
2 Acrylonitrile	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
3. Benzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
4. Bromobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
5. Bromochloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
6. Bromodichloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
7. Bromoform	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
8. Bromomethane	U	J,V-	μg/kg	200	1.0	05/13/11	V311E13A	05/13/11	V311E13A
9.2-Butanone	U		μg/kg	750	1.0	05/13/11	V311E13A	05/13/11	V311E13A
10. n-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
13. Carbon Disulfide	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
14. Carbon Tetrachloride	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
15. Chlorobenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
16. Chloroethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
17. Chloroform	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
18. Chloromethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
19. 2-Chlorotoluene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
20. Dibromochloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/kg	11	1.0	05/13/11	V311E13A	05/13/11	V311E13A
22 Dibromomethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
23. 1,2-Dichlorobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
24. 1,3-Dichlorobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
25. 1,4-Dichlorobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
26. Dichlorodifluoromethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
27. 1,1-Dichloroethane	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
28. 1,2-Dichloroethane	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
29.1,1-Dichloroethene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
30. cis-1,2-Dichloroethene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
31. trans-1,2-Dichloroethene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
32.1,2-Dichloropropane	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
33. cis-1,3-Dichloropropene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
34. trans-1,3-Dichloropropene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
35. Ethylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
36. Ethylene Dibromide	U		μg/kg	22	1.0	05/13/11	V311E13A	05/13/11	V311E13A

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Soil/Solid

Order: 44476 Page: 3 of 60 Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB4-S4 Chain of Custody:

108227

Client Project Name:

26500 Northwestern Highway

Sample No: 1 Collect Date: Collect Time: 05/10/11

Client Project No:

Sample Matrix:

11:20

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by G	C/MS, 5035 (E	PA 5035/EPA 82	260B)	Aliquot ID: 4	44476-001	Matrix: Soil	/Solid	Analyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
37. 2-Hexanone	U	μg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
38. Isopropylbenzene	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
39. Methyl lodide	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
40. Methylene Chloride	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
42 MTBE	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
43. Naphthalene	U	μg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
44. n-Propylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
45. Styrene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
46. 1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
47. 1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
48. Tetrachloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
49. Toluene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
50. 1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
51.1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
52 1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
53. Trichloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
54. Trichlorofluoromethane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
55. 1,2,3-Trichloropropane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
56. 1,2,3-Trimethylbenzene (NN)	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
57. 1,2,4-Trimethylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
58. 1,3,5-Trimethylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
59. Vinyl Chloride	U	μg/kg	40	1.0	05/13/11	V311E13A	05/13/11	V311E13A
60. Xylenes	U	μg/kg	150	1.0	05/13/11	V311E13A	05/13/11	V311E13A

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550C/EPA 8270C)		/EPA 8	270C)	Al	iquot ID: 444	476-001A	Matrix: Soil/Solid A		Analyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
2 Acenaphthylene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
3. Anthracene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
4. Benzo(a)anthracene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
5. Benzo(a)pyrene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
6. Benzo(b)fluoranthene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
7. Benzo(ghi)perylene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
8. Benzo(k)fluoranthene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
9. Chrysene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
10. Dibenzo(a,h)anthracene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
11. Fluoranthene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
12 Fluorene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
13. Indeno(1,2,3-cd)pyrene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601

T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



Soil/Solid

Order: 44476 Page: 4 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB4-S4

Chain of Custody:

108227

Client Project Name:
Client Project No:

26500 Northwestern Highway

Sample No: 1

Collect Date:
Collect Time:

05/10/11 11:20

Sample Comments: Soil re

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Polynuclear Aromatic Hydrocarbon	s (PNAs) (EPA 3550C/	EPA 82	270C)	Al	iquot ID: 444	176-001A	Matrix: Soil	/Solid	Analyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
14. 2-Methylnaphthalene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
15. Phenanthrene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A
16. Pyrene	U		μg/kg	330	1.0	05/13/11	PS11E13B	05/13/11	S711E13A



Order: 44476 Page: 5 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB6-S1

Chain of Custody:

108227

Client Project Name: 26

26500 Northwestern Highway

Collect Date:

05/10/11

Client Project No: PE54232D-06

Sample Matrix:

Soil/Solid

3

Collect Time:

10:10

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Sample No:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)				Ali	iquot ID: 444	476-003A	Matrix: Soil/Solid		Analyst: BMG
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	11		%	0.1	1.0	05/13/11	MC110513	05/16/11	MC110513

Trace Elements by ICP/MS (EPA 02	200.2-M/EPA 6020A)			Al	Aliquot ID: 44476-003A			/Solid	Analyst: JLH	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch	
1. Arsenic	2400		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A	
2 Copper	5300		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A	
3. Lead	8000		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A	

Organochlorine Pesticides (EPA 3550C/EPA 8081B)		Aliquot ID: 44476-003A			Matrix: Soil/Solid A		Analyst: GAN	
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
2 alpha-BHC (NN)	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
3. beta-BHC (NN)	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
4. delta-BHC	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
5. gamma-BHC (NN)	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
6. Chlordane (NN)	<b>62</b> J,V+	μg/kg	28	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
7. 4,4'-DDD	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
8.4,4'-DDE	<b>45</b> J,V+	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
9. 4,4'-DDT	<b>24</b> J,V+	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
10. Dieldrin	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
11. Endosulfan I	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
12 Endosulfan II	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
13. Endosulfan Sulfate	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
14. Endrin	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
15. Endrin Aldehyde	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
16. Heptachlor	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
17. Heptachlor Epoxide	U	μg/kg	23	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
18. Methoxychlor	U	μg/kg	56	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
19. Toxaphene (NN)	U	μg/kg	190	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B

Organochlorine Herbicides (EPA	3550C/EPA 8151A)			AI	iquot ID: 444	176-003A	Matrix: Soil/Solid		Analyst: TMC
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U		μg/kg	230	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
2 Dalapon	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
3.2,4-DB	U		μg/kg	230	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
4. Dicamba	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
5. Dichlorprop (NN)	U		μg/kg	230	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
6. Dinoseb (NN)	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



3

Order: 44476 Page: 6 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB6-S1

Chain of Custody:

108227

Client Project Name: 265

26500 Northwestern Highway

Collect Date:

05/10/11

Client Project No: **PE54232D-06** 

Sample Matrix: Soil/Solid

Collect Time:

10:10

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample No:

Organochlorine Herbicides (EPA	A 3550C/EPA 8151A)			Al	iquot ID: 444	176-003A	Matrix: Soil	/Solid	Analyst: TMC
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
7. 2,4,5-T	U		μg/kg	230	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
8.2,4,5-TP (NN)	U		μg/kg	230	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A

Volatile Organic Compounds (VOCs) by GC/	MS, 5035 (E	PA 5035/EP	8260B	) A	Aliquot ID: 4	4476-003	Matrix: Soil	/Solid A	Analyst: JAS
Parameter(s)	Result	Q Un	its	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U	μg/	′kg	1000	1.0	05/13/11	V311E13A	05/13/11	V311E13A
2 Acrylonitrile	U	μg/	kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
3. Benzene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
4. Bromobenzene	U	μg/	kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
5. Bromochloromethane	U	μg/	kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
6. Bromodichloromethane	U	μg/	kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
7. Bromoform	U	μg/	′kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
8. Bromomethane	U	J,V- µg/	kg	200	1.0	05/13/11	V311E13A	05/13/11	V311E13A
9.2-Butanone	U	μg/	′kg	750	1.0	05/13/11	V311E13A	05/13/11	V311E13A
10. n-Butylbenzene	U	μg/	′kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
11. sec-Butylbenzene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
12 tert-Butylbenzene	U	μg/	′kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
13. Carbon Disulfide	U	μg/	′kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
14. Carbon Tetrachloride	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
15. Chlorobenzene	U	μg/	′kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
16. Chloroethane	U	μg/	kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
17. Chloroform	U	μg/	′kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
18. Chloromethane	U	μg/	kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
19.2-Chlorotoluene	U	μg/	′kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
20. Dibromochloromethane	U	μg/	kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/	′kg	11	1.0	05/13/11	V311E13A	05/13/11	V311E13A
22. Dibromomethane	U	μg/	kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
23. 1,2-Dichlorobenzene	U	μg/	′kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
24.1,3-Dichlorobenzene	U	μg/	kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
25. 1,4-Dichlorobenzene	U	μg/	kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
26. Dichlorodifluoromethane	U	μg/	kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
27. 1,1-Dichloroethane	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
28. 1,2-Dichloroethane	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
29. 1,1-Dichloroethene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
30. cis-1,2-Dichloroethene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
31. trans-1,2-Dichloroethene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
32.1,2-Dichloropropane	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
33. cis-1,3-Dichloropropene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
34. trans-1,3-Dichloropropene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
35. Ethylbenzene	U	μg/	kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368 F: (517) 699-0388 F: (810) 220-3311 F: (231) 775-8584



Order: 44476 Page: 7 of 60 Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

SB6-S1 Sample Description:

Chain of Custody:

Collect Date:

108227 05/10/11

Client Project Name:

Client Project No:

26500 Northwestern Highway

Sample No: 3

Soil/Solid

Collect Time: 10:10

Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by	GC/MS, 5035 (E	PA 5035/EPA 82	260B)	Aliquot ID: 4	44476-003	Matrix: Soi	l/Solid	Analyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
36. Ethylene Dibromide	U	μg/kg	23	1.0	05/13/11	V311E13A	05/13/11	V311E13A
37. 2-Hexanone	U	μg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
38. Isopropylbenzene	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
39. Methyl lodide	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
40. Methylene Chloride	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
42 MTBE	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
43. Naphthalene	U	μg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
44. n-Propylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
45. Styrene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
46. 1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
47. 1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
48. Tetrachloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
49. Toluene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
50. 1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
51. 1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
52.1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
53. Trichloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
54. Trichlorofluoromethane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
55. 1,2,3-Trichloropropane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
56. 1,2,3-Trimethylbenzene (NN)	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
57. 1,2,4-Trimethylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
58. 1,3,5-Trimethylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
59. Vinyl Chloride	U	μg/kg	40	1.0	05/13/11	V311E13A	05/13/11	V311E13A
60. Xylenes	U	μg/kg	150	1.0	05/13/11	V311E13A	05/13/11	V311E13A

Polynuclear Aromatic Hydrocarbons (P	NAs) (EPA 35500	/EPA	8270C)	AI	iquot ID: 444	476-003A	Matrix: Soil	/Solid A	nalyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
2 Acenaphthylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
3. Anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
4. Benzo(a)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
5. Benzo(a)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
9. Chrysene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
11. Fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
12 Fluorene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601

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Client Project No:

## **Analytical Laboratory Report Laboratory Project Number: 44476** Laboratory Sample Number: 44476-003

SB6-S1

Soil/Solid

Order: 44476 Page: 8 of 60 Date: 05/19/11

05/10/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

108227 Chain of Custody:

Collect Date:

Client Project Name: 26500 Northwestern Highway 3 Sample No:

Collect Time: 10:10

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Sample Description:

Polynuclear Aromatic Hydrocarbons (PN	NAs) (EPA 35500	/EPA	8270C)	Al	iquot ID: 44	476-003A	Matrix: Soil/Solid		Analyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
14.2-Methylnaphthalene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
15. Phenanthrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
16. Pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

Cyanide, Total (CLP ISM01.2/EPA 9014)				Ali	iquot ID: 444	476-003A	Matrix: Soil	/Solid	Analyst: DMS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Cyanide	U		μg/kg	200	1.0	05/13/11	PW11E13B	05/13/11	WP11E13A

Inorganic Anions by IC (EPA 0	0300.0/EPA 9056)		Al	476-003A	Matrix: Soil/Solid A		nalyst: CML	
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Sulfate	U	μg/kg	10000	1.0	05/12/11 18:39	PW11E12F	05/13/11 06:42	2 WC11E12A



Order: 44476 Page: 9 of 60 Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

SB7-S1 Sample Description:

Chain of Custody:

108227

Client Project Name:

Sample Comments:

26500 Northwestern Highway

Sample No: 4 Collect Date: Collect Time: 05/10/11 09:30

Client Project No:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Sample Matrix:

Dry Weight Determination (ASTM D 2974-87)				Ali	476-004A	Matrix: Soil	Analyst: BMG		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	7.3		%	0.1	1.0	05/13/11	MC110513	05/16/11	MC110513

Soil/Solid

Trace Elements by ICP/MS (EPA 02	200.2-M/EPA 6020A)			Ali	Aliquot ID: 44476-00			/Solid	Analyst: JLH
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Arsenic	1900		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
2 Copper	5100		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
3. Lead	9500		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A

Organochlorine Pesticides (EPA 35	anochlorine Pesticides (EPA 3550C/EPA 8081B)		Al	Aliquot ID: 44476-004A			Matrix: Soil/Solid		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
2 alpha-BHC (NN)	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
3. beta-BHC (NN)	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
4. delta-BHC	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
5. gamma-BHC (NN)	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
6. Chlordane (NN)	U		μg/kg	27	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
7. 4,4'-DDD	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
8. 4,4'-DDE	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
9. 4,4'-DDT	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
10. Dieldrin	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
11. Endosulfan I	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
12 Endosulfan II	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
13. Endosulfan Sulfate	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
14. Endrin	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
15. Endrin Aldehyde	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
16. Heptachlor	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
17. Heptachlor Epoxide	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
18. Methoxychlor	U		μg/kg	54	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
19. Toxaphene (NN)	U		μg/kg	180	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B

Organochlorine Herbicides (EPA	3550C/EPA 8151A)			Aliquot ID: 44476-004A			Matrix: Soil/Solid		Analyst: TMC
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. 2,4-D	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
2 Dalapon	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
3.2,4-DB	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
4. Dicamba	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
5. Dichlorprop (NN)	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
6. Dinoseb (NN)	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A

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Order: 44476 Page: 10 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB7-S1

Chain of Custody:

Collect Time:

108227

09:30

Client Project Name: 265

Client Project No:

26500 Northwestern Highway

Sample No: 4

Soil/Solid

Collect Date: **05/10/11** 

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Organochlorine Herbicides (EPA	A 3550C/EPA 8151A)			Al	/Solid	Solid Analyst: TMC			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
7. 2,4,5-T	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
8.2,4,5-TP (NN)	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A

olatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA		PA 503	35/EPA 826	OB) AI	iquot ID: 444	176-004	Matrix: Soil/Solid A		nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/13/11	V311E13A	05/13/11	V311E13A
2 Acrylonitrile	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
3. Benzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
4. Bromobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
5. Bromochloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
6. Bromodichloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
7. Bromoform	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
8. Bromomethane	U	J,V-	μg/kg	200	1.0	05/13/11	V311E13A	05/13/11	V311E13A
9. 2-Butanone	U		μg/kg	750	1.0	05/13/11	V311E13A	05/13/11	V311E13A
10. n-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
13. Carbon Disulfide	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
14. Carbon Tetrachloride	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
15. Chlorobenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
16. Chloroethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
17. Chloroform	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
18. Chloromethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
19.2-Chlorotoluene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
20. Dibromochloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
21.1,2-Dibromo-3-chloropropane (NN)	U		μg/kg	11	1.0	05/13/11	V311E13A	05/13/11	V311E13A
22 Dibromomethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
23. 1,2-Dichlorobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
24.1,3-Dichlorobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
25. 1,4-Dichlorobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
26. Dichlorodifluoromethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
27. 1,1-Dichloroethane	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
28.1,2-Dichloroethane	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
29. 1,1-Dichloroethene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
30. cis-1,2-Dichloroethene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
31. trans-1,2-Dichloroethene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
32.1,2-Dichloropropane	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
33. cis-1,3-Dichloropropene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
34. trans-1,3-Dichloropropene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
35. Ethylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A

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Order: 44476 11 of 60 Page: Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

SB7-S1 Sample Description:

Chain of Custody:

Collect Date:

108227 05/10/11

Client Project Name:

26500 Northwestern Highway

Sample No: 4

Soil/Solid

Collect Time: 09:30

Sample Comments:

Client Project No:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by	olatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)		0B) AI	iquot ID: 444	176-004	Matrix: Soil	Analyst: JAS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
36. Ethylene Dibromide	U		μg/kg	22	1.0	05/13/11	V311E13A	05/13/11	V311E13A
37. 2-Hexanone	U		μg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
38. Isopropylbenzene	U		µg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
39. Methyl Iodide	U		µg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
40. Methylene Chloride	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
41. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
42 MTBE	U		µg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
43. Naphthalene	U		µg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
44. n-Propylbenzene	U		µg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
45. Styrene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
46. 1,1,1,2-Tetrachloroethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
47. 1,1,2,2-Tetrachloroethane	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
48. Tetrachloroethene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
49. Toluene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
50. 1,2,4-Trichlorobenzene	U		µg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
52.1,1,2-Trichloroethane	U		µg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
53. Trichloroethene	U		µg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
54. Trichlorofluoromethane	U		µg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
56. 1,2,3-Trimethylbenzene (NN)	U		µg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
57. 1,2,4-Trimethylbenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
59. Vinyl Chloride	U		µg/kg	40	1.0	05/13/11	V311E13A	05/13/11	V311E13A
60. Xylenes	U		μg/kg	150	1.0	05/13/11	V311E13A	05/13/11	V311E13A

Polynuclear Aromatic Hydrocarbons (PN	ynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550C/EPA 8270C)		8270C)	Aliquot ID: 44476-004A			Matrix: Soil/Solid A		nalyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
2 Acenaphthylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
3. Anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
4. Benzo(a)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
5. Benzo(a)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
9. Chrysene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
11. Fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
12 Fluorene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

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Client Project No:

## **Analytical Laboratory Report Laboratory Project Number: 44476** Laboratory Sample Number: 44476-004

SB7-S1

Soil/Solid

Order: 44476 12 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Chain of Custody:

108227

Client Project Name: 26500 Northwestern Highway Sample No: 4

Sample Description:

Sample Matrix:

Collect Date: Collect Time: 05/10/11 09:30

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (Pl	NAs) (EPA 35500	/EPA	8270C)	Aliquot ID: 44476-004A			Matrix: Soil/Solid		Analyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
14.2-Methylnaphthalene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
15. Phenanthrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
16. Pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

Cyanide, Total (CLP ISM01.2/EPA 9014)				Aliquot ID: 44476-004A				Matrix: Soil/Solid Ar		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch	
1. Cyanide	U		μg/kg	200	1.0	05/13/11	PW11E13B	05/13/11	WP11E13A	

Inorganic Anions by IC (EPA 0300	).0/EPA 9056)		Al	iquot ID: 44	476-004A	Matrix: Soil/Solid Ar		Analyst: CML
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis D	ate Analysis Batch
1. Sulfate	16000	μg/kg	10000	1.0	05/12/11 18:39	PW11E12F	05/13/11 0	7:00 WC11E12A



Order: 44476 13 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

DUP 1 Sample Description:

Chain of Custody:

108227

Client Project Name: Client Project No:

26500 Northwestern Highway

5 Sample No:

Soil/Solid

Collect Date:

05/10/11

PE54232D-06 Sample Matrix: Collect Time:

NA

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)				AI	476-005A	Matrix: Soil/Solid		Analyst: BMG	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
Percent Moisture (Water Content) (NN)	7.6		%	0.1	1.0	05/13/11	MC110513	05/16/11	MC110513

Michigan 10 Elements by ICP/MS (	nigan 10 Elements by ICP/MS (EPA 0200.2-M/EPA 6020A)					476-005A	Matrix: Soil/Solid Analyst: JLH		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	2300		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
2 Barium	5900		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
3. Cadmium	56		μg/kg	50	20	05/16/11	PT11E16F	05/16/11	T211E16A
4. Chromium	3400		μg/kg	500	20	05/16/11	PT11E16F	05/16/11	T211E16A
5. Copper	4500		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
6. Lead	2300		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
7. Selenium	U		μg/kg	200	20	05/16/11	PT11E16F	05/16/11	T211E16A
8. Silver	U		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
9. Zinc	14000	В	μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A

Chromium, Hexavalent (EPA 3060A/EPA 719	6A)			Al	iquot ID: 444	476-005A	Matrix: Soil	Analyst: LRW	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chromium VI	U		μg/kg	2700	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)				Aliquot ID: 4	44476-005A	Matrix: Soil	Matrix: Soil/Solid Analyst: JL		
Parameter(s)	Result	Q Un	its Reporting Lin	nit Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch	
1. Mercury	U	μg/	/kg 5	0 10	05/12/11	PM11E12C	05/13/11	M411E13C	

Organochlorine Pesticides (EPA 3550C/	EPA 8081B)			Al	iquot ID: 444	476-005A	Matrix: Soil	/Solid /	Analyst: GAN
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
2 alpha-BHC (NN)	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
3. beta-BHC (NN)	U		µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
4. delta-BHC	U		µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
5. gamma-BHC (NN)	U		µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
6. Chlordane (NN)	100	J,V+	µg/kg	27	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
7. 4,4'-DDD	U		µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
8.4,4'-DDE	94	J,V+	µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
9. 4,4'-DDT	U		µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
10. Dieldrin	U		µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
11. Endosulfan I	U		µg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
12 Endosulfan II	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
13. Endosulfan Sulfate	U		μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B

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Order: 44476 Page: 14 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: DUP 1

Chain of Custody:

108227

Client Project Name:

26500 Northwestern Highway

Sample No: 5

Collect Date:

05/10/11

Client Project No:

PE54232D-06

Sample Matrix:

Soil/Solid

Collect Time:

NA

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (s

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 3550	OC/EPA 8081B)		Aliquot ID: 44476-005A			Matrix: Soil	/Solid	Analyst: GAN
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
14. Endrin	U	μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
15. Endrin Aldehyde	U	μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
16. Heptachlor	U	μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
17. Heptachlor Epoxide	U	μg/kg	22	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
18. Methoxychlor	U	μg/kg	54	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
19. Toxaphene (NN)	U	μg/kg	180	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B

Organochlorine Herbicides (EPA	anochlorine Herbicides (EPA 3550C/EPA 8151A)				Aliquot ID: 44476-005A			Matrix: Soil/Solid Analyst: TMC		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch	
1. 2,4-D	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	
2. Dalapon	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	
3. 2,4-DB	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	
4. Dicamba	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	
5. Dichlorprop (NN)	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	
6. Dinoseb (NN)	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	
7. 2,4,5-T	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	
8.2,4,5-TP (NN)	U		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A	

Volatile Organic Compounds (VOCs) by	GC/MS, 5035 (E	MS, 5035 (EPA 5035/EPA 8260B)			Aliquot ID: 44476-005			Matrix: Soil/Solid A	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/13/11	V311E13A	05/13/11	V311E13A
2 Acrylonitrile	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
3. Benzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
4. Bromobenzene	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
5. Bromochloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
6. Bromodichloromethane	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
7. Bromoform	U		μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
8. Bromomethane	U	J,V-	μg/kg	200	1.0	05/13/11	V311E13A	05/13/11	V311E13A
9. 2-Butanone	U		μg/kg	750	1.0	05/13/11	V311E13A	05/13/11	V311E13A
10. n-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
13. Carbon Disulfide	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
14. Carbon Tetrachloride	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
15. Chlorobenzene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
16. Chloroethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
17. Chloroform	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
18. Chloromethane	U		μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
19. 2-Chlorotoluene	U		μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A

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Order: 44476 Page: 15 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: DUP 1

Chain of Custody:

108227

Client Project Name: 26500 Northwestern Highway

Sample No:

Collect Date:
Collect Time:

05/10/11

Client Project No: PE54232D-06

PE54232D-06 Sample Matrix: Soil/Solid

NA

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

/olatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260		60B) A	liquot ID: 44	476-005	Matrix: Soil	nalyst: JAS		
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
20. Dibromochloromethane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/kg	11	1.0	05/13/11	V311E13A	05/13/11	V311E13A
22 Dibromomethane	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
23. 1,2-Dichlorobenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
24. 1,3-Dichlorobenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
25. 1,4-Dichlorobenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
26. Dichlorodifluoromethane	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
27. 1,1-Dichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
28. 1,2-Dichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
29. 1,1-Dichloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
30. cis-1,2-Dichloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
31. trans-1,2-Dichloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
32.1,2-Dichloropropane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
33. cis-1,3-Dichloropropene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
34. trans-1,3-Dichloropropene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
35. Ethylbenzene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
36. Ethylene Dibromide	U	μg/kg	22	1.0	05/13/11	V311E13A	05/13/11	V311E13A
37. 2-Hexanone	U	μg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
38. Isopropylbenzene	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
39. Methyl lodide	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
40. Methylene Chloride	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/13/11	V311E13A	05/13/11	V311E13A
42 MTBE	U	μg/kg	250	1.0	05/13/11	V311E13A	05/13/11	V311E13A
43. Naphthalene	U	μg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
44. n-Propylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
45. Styrene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
46. 1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
47. 1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
48. Tetrachloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
49. Toluene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
50.1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/13/11	V311E13A	05/13/11	V311E13A
51. 1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
52.1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
53. Trichloroethene	U	μg/kg	50	1.0	05/13/11	V311E13A	05/13/11	V311E13A
54. Trichlorofluoromethane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
55. 1,2,3-Trichloropropane	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
56. 1,2,3-Trimethylbenzene (NN)	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
57. 1,2,4-Trimethylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
58.1,3,5-Trimethylbenzene	U	μg/kg	100	1.0	05/13/11	V311E13A	05/13/11	V311E13A
59. Vinyl Chloride	U	μg/kg	40	1.0	05/13/11	V311E13A	05/13/11	V311E13A

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Order: 44476 Page: 16 of 60 Date: 05/19/11

Client Identification:

Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

DUP 1 Sample Description:

Soil/Solid

Chain of Custody:

108227

Client Project Name:

26500 Northwestern Highway

5 Sample No:

Collect Date: Collect Time: 05/10/11

NA

Client Project No: Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B) Aliquot ID: 44476-005 Matrix: Soil/Solid Analyst: JAS Reporting Limit Dilution Prep Date Prep Batch Analysis Date Analysis Batch 60. Xylenes U 150 1.0 05/13/11 V311E13A 05/13/11 V311E13A μg/kg

lynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550C/EPA 8270C)				Al	iquot ID: 44	476-005A	Matrix: Soil	Matrix: Soil/Solid Analyst: HL		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch	
1. Acenaphthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
2 Acenaphthylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
3. Anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
4. Benzo(a)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
5. Benzo(a)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
9. Chrysene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
11. Fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
12 Fluorene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
14. 2-Methylnaphthalene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
15. Phenanthrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	
16. Pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A	

Cyanide, Total (CLP ISM01.2/EPA 9014)				Al	iquot ID: 44	476-005A	Matrix: Soil	Analyst: DMS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Cyanide	U		μg/kg	200	1.0	05/13/11	PW11E13B	05/13/11	WP11E13A

li	norganic Anions by IC (EPA 0300.0/EPA 9056)		Ali	476-005A	Matrix: Soil	alyst: CML				
F	Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
	1. Sulfate	U		μg/kg	10000	1.0	05/12/11 18:39	PW11E12F	05/13/11 07:17	WC11E12A



SB8-S1

Order: 44476 17 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

108225 Chain of Custody:

Client Project Name: 26500 Northwestern Highway

6 Sample No:

Sample Description:

05/10/11 Collect Date:

Client Project No: PE54232D-06 Sample Matrix: Soil/Solid Collect Time: 15:40

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)	Veight Determination (ASTM D 2974-87)				Aliquot ID: 44476-006A				Analyst: BMG
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	6.3		%	0.1	1.0	05/13/11	MC110513	05/16/11	MC110513

Michigan 10 Elements by ICP/MS	(EPA 0200.2-M/EPA 60	20A)		AI	iquot ID: 444	476-006A	Matrix: Soil/Solid A		nalyst: JLH
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	2200		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
2 Barium	6100		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
3. Cadmium	50		μg/kg	50	20	05/16/11	PT11E16F	05/16/11	T211E16A
4. Chromium	4400		μg/kg	500	20	05/16/11	PT11E16F	05/16/11	T211E16A
5. Copper	4300		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
6. Lead	2800		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
7. Selenium	230		μg/kg	200	20	05/16/11	PT11E16F	05/16/11	T211E16A
8. Silver	U		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
9. Zinc	13000	В	µg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A

Chromium, Hexavalent (EPA 3060A/EPA 719	6A)			Aliquot ID: 44476-006A			Matrix: Soil/Solid		Analyst: LRW
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chromium VI	U		μg/kg	2700	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)			Al	liquot ID: 44	1476-006A	Matrix: Soil	Analyst: JLH	
Parameter(s)	Result C	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Mercury	U	μg/kg	50	10	05/12/11	PM11E12C	05/13/11	M411E13C

Organochlorine Pesticides (EPA 3550C/E	PA 8081B)		AI	iquot ID: 444	476-006A	Matrix: Soil/Solid Analyst: GAN		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
2 alpha-BHC (NN)	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
3. beta-BHC (NN)	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
4. delta-BHC	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
5. gamma-BHC (NN)	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
6. Chlordane (NN)	<b>120</b> J,V+	μg/kg	27	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
7. 4,4'-DDD	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
8. 4,4'-DDE	<b>77</b> J,V+	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
9. 4,4'-DDT	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
10. Dieldrin	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
11. Endosulfan I	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
12 Endosulfan II	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
13. Endosulfan Sulfate	U	μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B

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Client Project Name:

## **Analytical Laboratory Report Laboratory Project Number: 44476** Laboratory Sample Number: 44476-006

SB8-S1

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Order: 44476 18 of 60 Page: Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

26500 Northwestern Highway

Sample Description:

Chain of Custody: 108225

05/10/11 Collect Date:

Client Project No: PE54232D-06 Sample Matrix: Soil/Solid Collect Time: 15:40

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample No:

Organochlorine Pesticides (EPA 35	50C/EPA 8081B)			Al	Aliquot ID: 44476-006A			/Solid /	Analyst: GAN
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
14. Endrin	U		μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
15. Endrin Aldehyde	U		μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
16. Heptachlor	U		μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
17. Heptachlor Epoxide	U		μg/kg	21	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
18. Methoxychlor	U		μg/kg	53	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B
19. Toxaphene (NN)	U		μg/kg	180	1.0	05/13/11	PS11E13C	05/17/11	SA11E17B

Organochlorine Herbicides (EPA 3550C/EF	ganochlorine Herbicides (EPA 3550C/EPA 8151A)				iquot ID: 444	476-006A	Matrix: Soil/Solid A		nalyst: TMC
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U		μg/kg	210	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
2. Dalapon	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
3. 2,4-DB	U		μg/kg	210	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
4. Dicamba	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
5. Dichlorprop (NN)	U		μg/kg	210	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
6. Dinoseb (NN)	U		μg/kg	110	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
7. 2,4,5-T	U		μg/kg	210	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
8.2,4,5-TP (NN)	U		μg/kg	210	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A

Volatile Organic Compounds (VOCs) b	y GC/MS, 5035 (E	PA 5035/EP	A 826	60B) A	liquot ID: 4	4476-006	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q U	nits	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U	μί	g/kg	1000	1.0	05/16/11	V911E16A	05/16/11	V911E16A
2 Acrylonitrile	U	μί	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
3. Benzene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
4. Bromobenzene	U	μί	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
5. Bromochloromethane	U	μί	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
6. Bromodichloromethane	U	μί	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
7. Bromoform	U	μί	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
8. Bromomethane	U	μί	g/kg	200	1.0	05/16/11	V911E16A	05/16/11	V911E16A
9. 2-Butanone	U	μί	g/kg	750	1.0	05/16/11	V911E16A	05/16/11	V911E16A
10. n-Butylbenzene	U	μί	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
11. sec-Butylbenzene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
12 tert-Butylbenzene	U	μί	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
13. Carbon Disulfide	U	μί	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
14. Carbon Tetrachloride	U	μί	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
15. Chlorobenzene	U	μί	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
16. Chloroethane	U	μί	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
17. Chloroform	U	μί	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
18. Chloromethane	U	μί	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
19. 2-Chlorotoluene	U	μί	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A

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Client Project No:

## Analytical Laboratory Report Laboratory Project Number: 44476 Laboratory Sample Number: 44476-006

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Soil/Solid

Order: 44476 Page: 19 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-S1

Chain of Custody:

108225

Client Project Name: 26500 Northwestern Highway

Sample No:

Collect Date:

05/10/11

Sample Matrix:

Collect Time:

15:40

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by G	C/MS, 5035 (E	PA 5035/EPA	8260B)	Aliquot ID:	44476-006	Matrix: Soi	I/Solid A	nalyst: JAS
Parameter(s)	Result	Q Un	ts Reporting Lim	it Dilution	n Prep Date	e Prep Batch	Analysis Date	Analysis Batch
20. Dibromochloromethane	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/	kg 1	1.0	05/16/11	V911E16A	05/16/11	V911E16A
22 Dibromomethane	U	μg/	kg 250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
23.1,2-Dichlorobenzene	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
24. 1,3-Dichlorobenzene	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
25. 1,4-Dichlorobenzene	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
26. Dichlorodifluoromethane	U	μg/	kg 250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
27. 1,1-Dichloroethane	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
28.1,2-Dichloroethane	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
29. 1,1-Dichloroethene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
30. cis-1,2-Dichloroethene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
31. trans-1,2-Dichloroethene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
32 1,2-Dichloropropane	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
33. cis-1,3-Dichloropropene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
34. trans-1,3-Dichloropropene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
35. Ethylbenzene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
36. Ethylene Dibromide	U	μg/	kg 2	1.0	05/16/11	V911E16A	05/16/11	V911E16A
37. 2-Hexanone	U	μg/	kg 2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
38. Isopropylbenzene	U	μg/	kg 25	1.0	05/16/11	V911E16A	05/16/11	V911E16A
39. Methyl Iodide	U	μg/	kg 110	1.0	05/16/11	V911E16A	05/16/11	V911E16A
40. Methylene Chloride	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
41. 4-Methyl-2-pentanone	U	μg/	kg 2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
42 MTBE	U	μg/	kg 250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
43. Naphthalene	U	μg/	kg 330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
44. n-Propylbenzene	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
45. Styrene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
46.1,1,1,2-Tetrachloroethane	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
47. 1,1,2,2-Tetrachloroethane	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
48. Tetrachloroethene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
49. Toluene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
50. 1,2,4-Trichlorobenzene	U	μg/	kg 33	1.0	05/16/11	V911E16A	05/16/11	V911E16A
51. 1,1,1-Trichloroethane	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
52 1,1,2-Trichloroethane	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
53. Trichloroethene	U	μg/	kg 50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
54. Trichlorofluoromethane	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
55. 1,2,3-Trichloropropane	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
56. 1,2,3-Trimethylbenzene (NN)	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
57. 1,2,4-Trimethylbenzene	U	μg/	kg 100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
58. 1,3,5-Trimethylbenzene	U	μg/	kg 10	1.0	05/16/11	V911E16A	05/16/11	V911E16A
59. Vinyl Chloride	U	μg/	kg 40	1.0	05/16/11	V911E16A	05/16/11	V911E16A

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Soil/Solid

Order: 44476 20 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-S1 Chain of Custody:

108225

Client Project Name:

26500 Northwestern Highway

Q: Qualifier (see definitions at end of report)

6 Sample No:

Collect Date: Collect Time: 05/10/11 15:40

Client Project No: Sample Comments:

Definitions:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/M	Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)				iquot ID: 44	476-006	Matrix: Soil	Analyst: JAS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	te Analysis Batch
60. Xylenes	U		μg/kg	150	1.0	05/16/11	V911E16A	05/16/11	V911E16A

Polynuclear Aromatic Hydrocarbons (Pi	NAs) (EPA 35500	EPA 8	3270C)	Al	iquot ID: 444	476-006A	Matrix: Soi	Analyst: HLS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Acenaphthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
2 Acenaphthylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
3. Anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
4. Benzo(a)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
5. Benzo(a)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
9. Chrysene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
11. Fluoranthene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
12 Fluorene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
14. 2-Methylnaphthalene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
15. Phenanthrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
16. Pyrene (SIM)	U		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

Cyanide, Total (CLP ISM01.2/EPA 9014)				Ali	iquot ID: 444	476-006A	Matrix: Soil	Analyst: DMS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Cyanide	U		μg/kg	200	1.0	05/13/11	PW11E13B	05/13/11	WP11E13A

Inc	organic Anions by IC (EPA 0300.0/EPA 9056)		Alie	quot ID: 44	476-006A	Matrix: Soil/Solid Ana		st: CML		
Pa	arameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date Ana	alysis Batch
1	. Sulfate	U		μg/kg	10000	1.0	05/12/11 18:39	PW11E12F	05/13/11 08:09 W	C11E12A



Order: 44476 21 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-S1 MS Chain of Custody:

108225

Client Project Name:

26500 Northwestern Highway

Q: Qualifier (see definitions at end of report)

7 Sample No:

Sample Matrix:

Collect Date: Collect Time: 05/10/11 15:40

Client Project No: Sample Comments:

Definitions:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted. NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Aliquot ID: 44476-007A Matrix: Soil/Solid Dry Weight Determination (ASTM D 2974-87) Analyst: BMG Result Q Units Reporting Limit Dilution Prep Date Prep Batch Analysis Date Analysis Batch 1. Percent Moisture (Water Content) (NN) 7.0 % 0.1 1.0 05/13/11 MC110513 05/16/11 MC110513

Soil/Solid

Michigan 10 Elements by ICP/M	S (EPA 0200.2-M/EPA 60	20A)		Al	iquot ID: 44	476-007A	Matrix: Soil/Solid Analyst: JLH		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	13000		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
2 Barium	58000		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
3. Cadmium	11000		μg/kg	50	20	05/16/11	PT11E16F	05/16/11	T211E16A
4. Chromium	25000		μg/kg	500	20	05/16/11	PT11E16F	05/16/11	T211E16A
5. Copper	25000		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
6. Lead	23000		μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
7. Selenium	11000		μg/kg	200	20	05/16/11	PT11E16F	05/16/11	T211E16A
8. Silver	10000		μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
9. Zinc	64000	В	μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A

Chromium, Hexavalent (EPA 3060A/EPA 7196	A)			Aliquot ID: 44476-007A			Matrix: Soil	Analyst: LRW	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Chromium VI	35000		μg/kg	2700	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)				Ali	iquot ID: 44	Matrix: Soil	Matrix: Soil/Solid An		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Mercury	210		μg/kg	50	10	05/12/11	PM11E12C	05/13/11	M411E13C

Organochlorine Pesticides (EPA 3550C/EI	PA 8081B)		Aliquot ID: 44476-007A			Matrix: Soil	Analyst: GAN	
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	<b>85</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
2 alpha-BHC (NN)	<b>85</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
3. beta-BHC (NN)	<b>88</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
4. delta-BHC	<b>81</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
5. gamma-BHC (NN)	<b>86</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
6.4,4'-DDE	120	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
7. 4,4'-DDT	78	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
8. Dieldrin	77	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
9. Endosulfan I	<b>81</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
10. Endosulfan II	76	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
11. Endosulfan Sulfate	75	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
12 Endrin	75	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
13. Heptachlor	82	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B

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Soil/Solid

Order: 44476 22 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-S1 MS Chain of Custody:

108225

Client Project Name:

26500 Northwestern Highway

7 Sample No:

Collect Date: Collect Time: 05/10/11 15:40

Client Project No: Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 35500	C/EPA 8081B)			Al	iquot ID: 444	476-007A	Matrix: Soil	Matrix: Soil/Solid Analys	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
14. Heptachlor Epoxide	80 .	J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
15. Methoxychlor	280		μg/kg	110	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B

Organochlorine Herbicides (EPA 3550C/EPA		Al	iquot ID: 444	476-007A	Matrix: Soil	Matrix: Soil/Solid Analy			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. 2,4-D	410		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
2.2,4,5-TP (NN)	440		μg/kg	220	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A

Volatile Organic Compounds (VOCs) by GC/	MS, 5035 (E	PA 5035/EPA 8260B)		0B) A	Aliquot ID: 44476-007			Matrix: Soil/Solid A	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	6400		μg/kg	1000	1.0	05/16/11	V911E16A	05/16/11	V911E16A
2 Acrylonitrile	7000		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
3. Benzene	5100		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
4. Bromobenzene	5200		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
5. Bromochloromethane	5700		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
6. Bromodichloromethane	5800		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
7. Bromoform	6000		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
8. Bromomethane	3900		μg/kg	200	1.0	05/16/11	V911E16A	05/16/11	V911E16A
9. 2-Butanone	5700		μg/kg	750	1.0	05/16/11	V911E16A	05/16/11	V911E16A
10. n-Butylbenzene	5900		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
11. sec-Butylbenzene	5700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
12. tert-Butylbenzene	5700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
13. Carbon Disulfide	4000		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
14. Carbon Tetrachloride	5100		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
15. Chlorobenzene	4700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
16. Chloroethane	4500		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
17. Chloroform	5400		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
18. Chloromethane	4900		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
19. 2-Chlorotoluene	5200		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
20. Dibromochloromethane	5700		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
21.1,2-Dibromo-3-chloropropane (NN)	6100		μg/kg	11	1.0	05/16/11	V911E16A	05/16/11	V911E16A
22. Dibromomethane	5300		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
23. 1,2-Dichlorobenzene	5000		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
24.1,3-Dichlorobenzene	4900		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
25. 1,4-Dichlorobenzene	4600		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
26. Dichlorodifluoromethane	5700		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
27. 1,1-Dichloroethane	5500		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
28.1,2-Dichloroethane	10000		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
29. 1,1-Dichloroethene	5200		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A

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7

Order: 44476 Page: 23 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB8-S1 MS

Chain of Custody:

108225

Client Project Name: 26500 Northwestern Highway

Sample No:

Collect Date:

05/10/11

Client Project No: **PE54232D-06** 

Sample Matrix:

Soil/Solid Collect Time:

15:40

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by	GC/MS, 5035 (E	PA 50	35/EPA 826	0B) AI	iquot ID: 444	476-007	Matrix: Soi	I/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
30. cis-1,2-Dichloroethene	6300		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
31. trans-1,2-Dichloroethene	4100		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
32. 1,2-Dichloropropane	5600		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
33. cis-1,3-Dichloropropene	6000		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
34. trans-1,3-Dichloropropene	6000		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
35. Ethylbenzene	5000		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
36. Ethylene Dibromide	10000		μg/kg	20	1.0	05/16/11	V911E16A	05/16/11	V911E16A
37.2-Hexanone	6400		μg/kg	2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
38. Isopropylbenzene	5400		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
39. Methyl lodide	4300		μg/kg	110	1.0	05/16/11	V911E16A	05/16/11	V911E16A
40. Methylene Chloride	4800		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
41. 4-Methyl-2-pentanone	6300		μg/kg	2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
42 MTBE	11000		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
43. Naphthalene	6300		μg/kg	330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
44. n-Propylbenzene	5600		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
45. Styrene	5600		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
46.1,1,1,2-Tetrachloroethane	5300		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
47. 1,1,2,2-Tetrachloroethane	5700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
48. Tetrachloroethene	4700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
49. Toluene	5200		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
50. 1,2,4-Trichlorobenzene	5500		μg/kg	330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
51. 1,1,1-Trichloroethane	5200		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
52.1,1,2-Trichloroethane	5200		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
53. Trichloroethene	5300		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
54. Trichlorofluoromethane	5400		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
55. 1,2,3-Trichloropropane	5500		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
56. 1,2,3-Trimethylbenzene (NN)	5200		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
57. 1,2,4-Trimethylbenzene	5500		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
58. 1,3,5-Trimethylbenzene	5500		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
59. Vinyl Chloride	5600		μg/kg	40	1.0	05/16/11	V911E16A	05/16/11	V911E16A
60. Xylenes	15000		μg/kg	150	1.0	05/16/11	V911E16A	05/16/11	V911E16A

Polynuclear Aromatic Hydrocarbons (F	nuclear Aromatic Hydrocarbons (PNAs) (EPA 3550C/EPA 8270C)				Aliquot ID: 44476-007A			Matrix: Soil/Solid A	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene (SIM)	4900		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
2 Acenaphthylene (SIM)	4800		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
3. Anthracene (SIM)	4800		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
4. Benzo(a)anthracene (SIM)	4700		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
5. Benzo(a)pyrene (SIM)	5200		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
6. Benzo(b)fluoranthene (SIM)	5200		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

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Order: 44476 Page: 24 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-S1 MS

Chain of Custody:

108225

Client Project Name:
Client Project No:

26500 Northwestern Highway

Sample No: 7

Sample Matrix:

Collect Date:

05/10/11 15:40

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Definitions:

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Soil/Solid

Polynuclear Aromatic Hydrocarbons (PNA	As) (EPA 35500	/EPA	8270C)	AI	iquot ID: 44	476-007A	Matrix: Soil	nalyst: HLS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
7. Benzo(ghi)perylene (SIM)	5000		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
8. Benzo(k)fluoranthene (SIM)	5200		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
9. Chrysene (SIM)	4400		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
10. Dibenzo(a,h)anthracene (SIM)	5200		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
11. Fluoranthene (SIM)	5200		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
12 Fluorene (SIM)	4900		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
13. Indeno(1,2,3-cd)pyrene (SIM)	5000		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
14.2-Methylnaphthalene (SIM)	4100		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
15. Phenanthrene (SIM)	5000		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
16. Pyrene (SIM)	5100		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

Cyanide, Total (CLP ISM01.2/EPA 9014)				Ali	iquot ID: 44	Matrix: Soil	Analyst: DMS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Cyanide	3300		μg/kg	200	1.0	05/13/11	PW11E13B	05/13/11	WP11E13A

Inorganic Anions by IC (EPA 030	Aliquot ID: 44476-007A			Matrix: Soil/Solid		Analyst: CML		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Sulfate	230000	μg/kg	10000	1.0	05/12/11 18:39	PW11E12F	05/13/11 08:	26 WC11E12A



Order: 44476 Page: 25 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB8-S1 MSD

Chain of Custody:

108225

Client Project Name:

26500 Northwestern Highway

Sample No: 8

Collect Date:

05/10/11

Client Project No: PE5

PE54232D-06 Sample Matrix:

Soil/Solid

Collect Time: 15:40

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)			Aliquot ID: 44476-008A			Matrix: Soil/Solid		Analyst: BMG	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	6.9		%	0.1	1.0	05/13/11	MC110513	05/16/11	MC110513

Michigan 10 Elements by ICP/MS (EPA 0200.2-M/EPA 6020A)			Aliquot ID: 44476-008A			Matrix: Soil/Solid A		Analyst: JLH
Parameter(s)	Result (	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	12000	μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
2 Barium	55000	μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
3. Cadmium	10000	μg/kg	50	20	05/16/11	PT11E16F	05/16/11	T211E16A
4. Chromium	24000	μg/kg	500	20	05/16/11	PT11E16F	05/16/11	T211E16A
5. Copper	23000	μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
6. Lead	22000	μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A
7. Selenium	10000	μg/kg	200	20	05/16/11	PT11E16F	05/16/11	T211E16A
8. Silver	10000	μg/kg	100	20	05/16/11	PT11E16F	05/16/11	T211E16A
9. Zinc	<b>60000</b> E	B μg/kg	1000	20	05/16/11	PT11E16F	05/16/11	T211E16A

Chromium, Hexavalent (EPA 3060A/EPA 7196A)				Aliquot ID: 44476-008A			Matrix: Soil/Solid		Analyst: LRW
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chromium VI	37000		μg/kg	2700	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)			Aliquot ID: 44476-008A			Matrix: Soil/Solid		Analyst: JLH	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Mercury	200		μg/kg	50	10	05/12/11	PM11E12C	05/13/11	M411E13C

Organochlorine Pesticides (EPA 3550C/	Aliquot ID: 44476-008A			Matrix: Soil/Solid A		nalyst: GAN		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	<b>80</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
2 alpha-BHC (NN)	<b>80</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
3. beta-BHC (NN)	<b>84</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
4. delta-BHC	<b>77</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
5. gamma-BHC (NN)	<b>81</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
6.4,4'-DDE	100	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
7. 4,4'-DDT	71	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
8. Dieldrin	71	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
9. Endosulfan I	<b>74</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
10. Endosulfan II	71	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
11. Endosulfan Sulfate	68	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
12 Endrin	70	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
13. Heptachlor	77	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B

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Order: 44476 Page: 26 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB8-S1 MSD

Chain of Custody:

Collect Date:

108225

Client Project Name: 26500 N

26500 Northwestern Highway

Sample No: 8

Client Project No:

PE54232D-06

Sample Matrix: Soil/Solid

Collect Time:

05/10/11 15:40

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 35500	AI	iquot ID: 444	476-008A	Matrix: Soil/Solid		Analyst: GAN		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
14. Heptachlor Epoxide	<b>74</b> J,V+	μg/kg	43	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B
15. Methoxychlor	260	μg/kg	110	2.0	05/13/11	PS11E13C	05/17/11	SA11E17B

Organochlorine Herbicides (EPA	Aliquot ID: 44476-008A			Matrix: Soil/Solid		Analyst: TMC		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	te Analysis Batch
1. 2,4-D	430	μg/kg	210	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A
2.2.4.5-TP (NN)	460	ua/ka	210	1.0	05/13/11	PS11E13D	05/16/11	SC11E16A

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)			0B) AI	3) Aliquot ID: 44476-008			Matrix: Soil/Solid A		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	6200		μg/kg	1000	1.0	05/16/11	V911E16A	05/16/11	V911E16A
2 Acrylonitrile	6900		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
3. Benzene	5100		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
4. Bromobenzene	5200		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
5. Bromochloromethane	5700		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
6. Bromodichloromethane	5900		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
7. Bromoform	6100		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
8. Bromomethane	3900		μg/kg	200	1.0	05/16/11	V911E16A	05/16/11	V911E16A
9. 2-Butanone	5300		μg/kg	750	1.0	05/16/11	V911E16A	05/16/11	V911E16A
10. n-Butylbenzene	5900		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
11. sec-Butylbenzene	5700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
12 tert-Butylbenzene	5600		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
13. Carbon Disulfide	4200		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
14. Carbon Tetrachloride	5200		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
15. Chlorobenzene	4900		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
16. Chloroethane	4500		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
17. Chloroform	5400		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
18. Chloromethane	5100		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
19. 2-Chlorotoluene	5200		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
20. Dibromochloromethane	5700		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
21.1,2-Dibromo-3-chloropropane (NN)	6200		μg/kg	11	1.0	05/16/11	V911E16A	05/16/11	V911E16A
22 Dibromomethane	5400		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
23.1,2-Dichlorobenzene	5000		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
24. 1,3-Dichlorobenzene	4900		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
25. 1,4-Dichlorobenzene	4600		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
26. Dichlorodifluoromethane	5800		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
27. 1,1-Dichloroethane	5400		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
28. 1,2-Dichloroethane	10000		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
29. 1,1-Dichloroethene	5300		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A

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Order: 44476 Page: 27 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-S1 MSD

Soil/Solid

Chain of Custody:

Collect Date:

Collect Time:

108225

Client Project Name: 20

26500 Northwestern Highway

Sample No: 8

05/10/11 15:40

Sample Comments:

Client Project No:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Sample Matrix:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by	GC/MS, 5035 (E	PA 5035	5/EPA 826	0B) AI	iquot ID: 444	476-008	Matrix: Soil	/Solid	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
30. cis-1,2-Dichloroethene	6300		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
31. trans-1,2-Dichloroethene	4100		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
32 1,2-Dichloropropane	5600		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
33. cis-1,3-Dichloropropene	6100		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
34. trans-1,3-Dichloropropene	6100		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
35. Ethylbenzene	5000		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
36. Ethylene Dibromide	10000		μg/kg	20	1.0	05/16/11	V911E16A	05/16/11	V911E16A
37. 2-Hexanone	6600		μg/kg	2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
38. Isopropylbenzene	5600		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
39. Methyl Iodide	4200		μg/kg	110	1.0	05/16/11	V911E16A	05/16/11	V911E16A
40. Methylene Chloride	4700		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
41. 4-Methyl-2-pentanone	6500		μg/kg	2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
42 MTBE	11000		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
43. Naphthalene	6300		μg/kg	330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
44. n-Propylbenzene	5600		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
45. Styrene	5700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
46. 1,1,1,2-Tetrachloroethane	5400		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
47. 1,1,2,2-Tetrachloroethane	5700		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
48. Tetrachloroethene	4800		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
49. Toluene	5300		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
50. 1,2,4-Trichlorobenzene	5500		μg/kg	330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
51.1,1,1-Trichloroethane	5300		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
52.1,1,2-Trichloroethane	5400		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
53. Trichloroethene	5300		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
54. Trichlorofluoromethane	5500		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
55. 1,2,3-Trichloropropane	5400		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
56. 1,2,3-Trimethylbenzene (NN)	5300		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
57. 1,2,4-Trimethylbenzene	5500		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
58. 1,3,5-Trimethylbenzene	5500		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
59. Vinyl Chloride	5600		μg/kg	40	1.0	05/16/11	V911E16A	05/16/11	V911E16A
60. Xylenes	16000		μg/kg	150	1.0	05/16/11	V911E16A	05/16/11	V911E16A

Polynuclear Aromatic Hydrocarbons (P	lynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550C/EPA 8270C)		8270C)	Aliquot ID: 44476-008A			Matrix: Soil/Solid		Analyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Acenaphthene (SIM)	4800		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
2 Acenaphthylene (SIM)	4700		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
3. Anthracene (SIM)	4700		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
4. Benzo(a)anthracene (SIM)	4600		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
5. Benzo(a)pyrene (SIM)	5100		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
6. Benzo(b)fluoranthene (SIM)	5100		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

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Order: 44476 28 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

SB8-S1 MSD Sample Description:

Chain of Custody:

108225

Client Project Name:

26500 Northwestern Highway

Sample No: 8 Collect Date:

05/10/11

PE54232D-06

Sample Matrix: Soil/Solid Collect Time:

15:40

Client Project No: Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs	olynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550C/EPA 8270C)		8270C)	Al	iquot ID: 444	476-008A	Matrix: Soil/Solid A		nalyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
7. Benzo(ghi)perylene (SIM)	4800		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
8. Benzo(k)fluoranthene (SIM)	5100		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
9. Chrysene (SIM)	4300		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
10. Dibenzo(a,h)anthracene (SIM)	4900		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
11. Fluoranthene (SIM)	5100		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
12 Fluorene (SIM)	4800		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
13. Indeno(1,2,3-cd)pyrene (SIM)	4700		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
14. 2-Methylnaphthalene (SIM)	4000		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
15. Phenanthrene (SIM)	4900		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A
16. Pyrene (SIM)	5000		μg/kg	330	20	05/13/11	PS11E13B	05/16/11	S711E16A

Cyanide, Total (CLP ISM01.2/EPA 9014)				Ali	iquot ID: 44	476-008A	Matrix: Soil	/Solid	Analyst: DMS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Cyanide	3300		μg/kg	200	1.0	05/13/11	PW11E13B	05/13/11	WP11E13A

Inorganic Anions by IC (EPA 0300	D.0/EPA 9056)		AI	iquot ID: 44	476-008A	Matrix: Soil	/Solid	Analyst: CML
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Sulfate	240000	μg/kg	10000	1.0	05/12/11 18:39	PW11E12F	05/13/11 08	:43 WC11E12A



Order: 44476 Page: 29 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: TRIP BLANK

Soil/Solid

Chain of Custody:

108225

Client Project Name: 26500

26500 Northwestern Highway

Sample No: 10

Sample Matrix:

Collect Date:
Collect Time:

05/10/11

NA

Client Project No:

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by G	C/MS, 5035 (E	PA 5035/EP	A 826	60B)	Aliquot ID:	44476-010	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q U	nits	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U	μί	g/kg	1000	1.0	05/16/11	V911E16A	05/16/11	V911E16A
2. Acrylonitrile	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
3. Benzene	U	μί	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
4. Bromobenzene	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
5. Bromochloromethane	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
6. Bromodichloromethane	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
7. Bromoform	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
8. Bromomethane	U	μ	g/kg	200	1.0	05/16/11	V911E16A	05/16/11	V911E16A
9. 2-Butanone	U	μ	g/kg	750	1.0	05/16/11	V911E16A	05/16/11	V911E16A
10. n-Butylbenzene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
11. sec-Butylbenzene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
12 tert-Butylbenzene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
13. Carbon Disulfide	U	μ	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
14. Carbon Tetrachloride	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
15. Chlorobenzene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
16. Chloroethane	U	μ	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
17. Chloroform	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
18. Chloromethane	U	μ	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
19. 2-Chlorotoluene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
20. Dibromochloromethane	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
21. 1,2-Dibromo-3-chloropropane (NN)	U	μ	g/kg	10	1.0	05/16/11	V911E16A	05/16/11	V911E16A
22 Dibromomethane	U	μ	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
23.1,2-Dichlorobenzene	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
24. 1,3-Dichlorobenzene	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
25. 1,4-Dichlorobenzene	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
26. Dichlorodifluoromethane	U	μ	g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
27. 1,1-Dichloroethane	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
28. 1,2-Dichloroethane	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
29. 1,1-Dichloroethene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
30. cis-1,2-Dichloroethene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
31. trans-1,2-Dichloroethene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
32.1,2-Dichloropropane	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
33. cis-1,3-Dichloropropene	U	μ	g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
34. trans-1,3-Dichloropropene	U		g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
35. Ethylbenzene	U		g/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
36. Ethylene Dibromide	U	μ	g/kg	20	1.0	05/16/11	V911E16A	05/16/11	V911E16A
37. 2-Hexanone	U	μ	g/kg	2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
38. Isopropylbenzene	U		g/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
39. Methyl lodide	U		g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
40. Methylene Chloride	U	μ	g/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
-			_						

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Order: 44476 Page: 30 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: TRIP BLANK

Chain of Custody:

108225

Client Project Name:

26500 Northwestern Highway

Sample No: 10

Collect Date:

05/10/11

Client Project No:

PE54232D-06

Sample Matrix: Soil/Solid

Collect Time:

NA

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by G	C/MS, 5035 (EI	PA 5035	/EPA 826	0B) Ali	iquot ID: 44	476-010	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
41. 2-Methylnaphthalene (NN)	U		μg/kg	330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
42 4-Methyl-2-pentanone	U		μg/kg	2500	1.0	05/16/11	V911E16A	05/16/11	V911E16A
43.MTBE	U		μg/kg	250	1.0	05/16/11	V911E16A	05/16/11	V911E16A
44. Naphthalene	U		μg/kg	330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
45. n-Propylbenzene	U		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
46. Styrene	U		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
47. 1,1,1,2-Tetrachloroethane	U		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
48. 1,1,2,2-Tetrachloroethane	U		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
49. Tetrachloroethene	U		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
50. Toluene	U		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
51. 1,2,4-Trichlorobenzene	U		μg/kg	330	1.0	05/16/11	V911E16A	05/16/11	V911E16A
52 1,1,1-Trichloroethane	U		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
53.1,1,2-Trichloroethane	U		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
54. Trichloroethene	U		μg/kg	50	1.0	05/16/11	V911E16A	05/16/11	V911E16A
55. Trichlorofluoromethane	U		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
56. 1,2,3-Trichloropropane	U		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
57. 1,2,3-Trimethylbenzene (NN)	U		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
58. 1,2,4-Trimethylbenzene	U		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
59. 1,3,5-Trimethylbenzene	U		μg/kg	100	1.0	05/16/11	V911E16A	05/16/11	V911E16A
60. Vinyl Chloride	U		μg/kg	40	1.0	05/16/11	V911E16A	05/16/11	V911E16A
61. Xylenes	U		μg/kg	150	1.0	05/16/11	V911E16A	05/16/11	V911E16A



**Ground Water** 

Order: 44476 Page: 31 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB5-GW

Chain of Custody:

Collect Date:

Collect Time:

108224 05/10/11

14:50

Client Project Name:

26500 Northwestern Highway

Sample No: 12

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Trace Elements by ICP/MS, To	otal Recoverable (EPA 300	5A-M/	EPA 6020A)	Al	Aliquot ID: 44476-012A Matrix: Ground Water Anal					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch	
1. Cadmium	U		μg/L	1.0	10	05/12/11	PT11E12D	05/12/11	T211E12A	
2 Chromium	U		μg/L	10	10	05/12/11	PT11E12D	05/12/11	T211E12A	
3. Lead	U		μg/L	3.0	10	05/12/11	PT11E12D	05/12/11	T211E12A	

Volatile Organic Compounds (VOCs) by G	C/MS (EPA 50	30B/EF	PA 8260B)	Al	iquot ID: 444	476-012	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Acetone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	U		μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	U		μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	U	J,V-	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23. 1,2-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
25. 1,4-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28. 1,2-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29. 1,1-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34 trans-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

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Order: 44476 Page: Date:

32 of 60 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

SB5-GW Sample Description:

Chain of Custody:

Collect Date:

108224 05/10/11

Client Project Name:

26500 Northwestern Highway

Sample No: 12

**Ground Water** 

Collect Time: 14:50

Client Project No: Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Volatile Organic Compounds (VOCs) by	GC/MS (EPA 50	30B/EF	PA 8260B)	Al	iquot ID: 44	476-012	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
35. Ethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
37. 2-Hexanone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl lodide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
41. 4-Methyl-2-pentanone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42 MTBE	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43. Naphthalene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. n-Propylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. Styrene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. 1,1,1,2-Tetrachloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,2,2-Tetrachloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. Tetrachloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Toluene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50. 1,2,4-Trichlorobenzene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51. 1,1,1-Trichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52.1,1,2-Trichloroethane	U	J,L-	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53. Trichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichlorofluoromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. 1,2,3-Trichloropropane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trimethylbenzene (NN)	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,4-Trimethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58.1,3,5-Trimethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. Vinyl Chloride	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Xylenes	U		μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

Polynuclear Aromatic Hydrocarbons (PNA	lynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535A/EPA 8270C)		8270C)	Al	iquot ID: 444	476-012B	Matrix: Ground Water Analyst: HLS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
2 Acenaphthylene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
3. Anthracene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
4. Benzo(a)anthracene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
5. Benzo(a)pyrene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
6. Benzo(b)fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
7. Benzo(ghi)perylene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
8. Benzo(k)fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
9. Chrysene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
10. Dibenzo(a,h)anthracene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
11. Fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C

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Order: 44476 33 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB5-GW Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 12

**Ground Water** 

Collect Date:

05/10/11

Client Project No: Sample Comments:

Q: Qualifier (see definitions at end of report)

Collect Time:

14:50

Definitions: NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Polynuclear Aromatic Hydrocarbons	(PNAs) (EPA 3535A	/EPA	8270C)	Al	Aliquot ID: 44476-012B			und Water A	Analyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
12 Fluorene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
13. Indeno(1,2,3-cd)pyrene	U		μg/L	2.1	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
14. 2-Methylnaphthalene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
15. Phenanthrene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
16. Pyrene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C



SB8-GW

**Ground Water** 

Order: 44476 34 of 60 Page: Date: 05/19/11

05/10/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

26500 Northwestern Highway Sample No: Chain of Custody: 108224

Collect Date:

Client Project Name: 15

Collect Time: 16:00

Client Project No: Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Sample Description:

05/12/11	Analysis Batch T211E12A
05/12/11	
33, 12, 11	T211E12A
05/12/11	T211E12A
	05/12/11 05/12/11 05/12/11 05/12/11 05/12/11

Chromium, Hexavalent, Dissolved (EPA 7196	Aliquot ID: 44476-015A			Matrix: Gro	Analyst: CML				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Chromium VI	U		μg/L	5.0	1.0	NA	NA	05/11/11 13	:50 WF11E11A

Mercury by CVAAS, Total (EPA 7470A)			A	liquot ID: 44	476-015B	Matrix: Ground Water Analyst: MAP		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Mercury	U	μg/L	0.20	1.0	05/13/11	PM11E13A	05/13/11	M411E13A

Organochlorine Pesticides (EPA 3535A/EPA	rganochlorine Pesticides (EPA 3535A/EPA 8081B)					Matrix: Gro	Matrix: Ground Water Analyst: GAN		
Parameter(s)	Result	Q Un	ts Reporting	g Limit Dilutio	on Prep Date	e Prep Batch	Analysis Date	Analysis Batch	
1. Aldrin	U	μд	/L	0.010 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
2 alpha-BHC (NN)	U	μg	L .	0.010 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
3. beta-BHC (NN)	U	μg	L .	0.010 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
4. delta-BHC	U	μg	L .	0.010 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
5. gamma-BHC (NN)	U	μg	L .	0.010 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
6. Chlordane (NN)	U	μg	L .	0.050 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
7. 4,4'-DDD	U	μg	L .	0.020 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
8. 4,4'-DDE	U	μg	L .	0.020 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
9. 4,4'-DDT	U	μg	L .	0.020 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
10. Dieldrin	U	μg	L .	0.020 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
11. Endosulfan I	U	μg	L .	0.030 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
12 Endosulfan II	U	μg	L .	0.020 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
13. Endosulfan Sulfate	U	μg	′L	0.050 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
14. Endrin	U	μg	′L	0.020 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
15. Endrin Aldehyde	U	μg	′L	0.020 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
16. Heptachlor	U	μg	/L	0.010 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
17. Heptachlor Epoxide	U	μg	/L	0.010 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	
18. Methoxychlor	U	μg	′L	0.50 1.0	05/12/11	PS11E12E	05/16/11	SA11E16A	

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601

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Order: 44476 Page: 35 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW

Sample No:

Sample Matrix:

Chain of Custody:

Collect Date:

108224 05/10/11

Client Project Name:

26500 Northwestern Highway

15

**Ground Water** 

Collect Time: 16:00

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 3	535A/EPA 8081B)		Aliquot ID: 44476-015D Matrix: G				und Water	Analyst: GAN
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
19. Toxaphene (NN)	U	μg/L	1.0	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A

Organochlorine Herbicides (EPA 8151A)			Al	iquot ID: 444	476-015D	Matrix: Gro	und Water	Analyst: TMC
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U	μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
2 Dalapon	U	μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
3.2,4-DB	U	μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
4. Dicamba	U	μg/L	1.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
5. Dichlorprop (NN)	U	μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
6. Dinoseb (NN)	U	μg/L	5.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
7. 2,4,5-T	U	μg/L	1.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
8.2.4.5-TP (NN)	U	µg/L	1.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)			Al	iquot ID: 444	176-015	Matrix: Gro	Analyst: JAS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	te Analysis Batch
1. Acetone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	U		μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	U		μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	U	J,V-	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23. 1,2-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

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Order: 44476 Page: 36 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

SB8-GW Sample Description:

Chain of Custody: 108224

Client Project Name:

26500 Northwestern Highway

Collect Date:

05/10/11

Client Project No: PE54232D-06 Sample Matrix: **Ground Water** 

15

Collect Time: 16:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample No:

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)		Al	iquot ID: 444	476-015	Matrix: Ground Water Analyst: JA				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
25. 1,4-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28. 1,2-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29. 1,1-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34. trans-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
35. Ethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
37. 2-Hexanone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl Iodide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
41. 4-Methyl-2-pentanone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42 MTBE	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43. Naphthalene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. n-Propylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. Styrene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. 1,1,1,2-Tetrachloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,2,2-Tetrachloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. Tetrachloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Toluene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50. 1,2,4-Trichlorobenzene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51. 1,1,1-Trichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52.1,1,2-Trichloroethane	U	J,L-	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53. Trichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichlorofluoromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. 1,2,3-Trichloropropane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trimethylbenzene (NN)	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,4-Trimethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58. 1,3,5-Trimethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. Vinyl Chloride	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Xylenes	U		μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

Polynuclear Aromat	tic Hydrocarbons (PNAs)	(EPA 3535A	4/EPA	8270C)	Al	iquot ID: 444	176-015D	Matrix: Gro	und Water	Analyst: HLS
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Acenaphthene		U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
	1914 Holloway Drive Holt, MI 48842				T: (517) 699-0345			F: (517)	699-0388	
	11766 E. Grand River		Bright	on, MI 48116	T	: (810) 220-330	00	F: (810)	220-3311	
	8660 S. Mackinaw Trail		Cadilla	nc, MI 49601	T	: (231) 775-836	58	F: (231)	775-8584	



Order: 44476 37 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

15 Sample No:

Collect Date:

05/10/11

Client Project No: Sample Comments:

Definitions:

Sample Matrix: **Ground Water**  Collect Time: 16:00

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (	PNAs) (EPA 3535	VEPA	A 8270C) Aliquot ID: 44476-015D					Matrix: Ground Water Analyst: HLS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batcl	
2 Acenaphthylene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
3. Anthracene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
4. Benzo(a)anthracene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
5. Benzo(a)pyrene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
6. Benzo(b)fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
7. Benzo(ghi)perylene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
8. Benzo(k)fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
9. Chrysene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
10. Dibenzo(a,h)anthracene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
11. Fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
12 Fluorene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
13. Indeno(1,2,3-cd)pyrene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
14.2-Methylnaphthalene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
15. Phenanthrene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	
16. Pyrene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C	

Cyanide, Total (EPA 9010C/EPA 9014)		Al	476-015C	Matrix: Ground Water Analyst: DMS					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Cyanide	U		μg/L	5.0	1.0	05/13/11	PW11E13A	05/13/11	WP11E13A

Inorganic Anions by IC (EPA 9056)					Ali	476-015A	Matrix: Ground Water Analyst: CML			
Param	eter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Sulf	fate	140000		μg/L	2000	4.0	05/16/11 09:40	PW11E16A	05/17/11 13	:19 WC11E16A



Order: 44 Page: 38 Date: 05

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Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW MS

**Ground Water** 

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 16

Collect Date:

05/10/11 16:00

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Michigan 10 Elements by ICP/	MS, Total Recoverable (EP	A 3005A-M	/EPA	( 6020A)	Aliquot ID: 4	44476-016B	Matrix: Gro	und Water	Analyst: JLH
Parameter(s)	Result	Q U	nits	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Arsenic	120	μ	g/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
2 Barium	660	μ	g/L	100	10	05/12/11	PT11E12D	05/12/11	T211E12A
3. Cadmium	120	μ	g/L	1.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
4. Chromium	210	μ	g/L	10	10	05/12/11	PT11E12D	05/12/11	T211E12A
5. Copper	210	μ	g/L	4.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
6. Lead	200	μ	g/L	3.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
7. Selenium	120	μ	g/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
8. Silver	110	μ	g/L	0.20	10	05/12/11	PT11E12D	05/12/11	T211E12A
9. Zinc	520	μ	g/L	50	10	05/12/11	PT11E12D	05/12/11	T211E12A

Chromium, Hexavalent, Dissolved (	EPA 7196A)		Al	476-016A	Matrix: Ground Water Analyst: CML			
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Chromium VI	51	μg/L	5.0	1.0	NA	NA	05/11/11 13:5	0 WF11E11A

Mercury by CVAAS, Total (EPA 7470A)		Al	476-016B	Matrix: Ground Water Analyst: MAR					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Mercury	0.21		μg/L	0.20	1.0	05/13/11	PM11E13A	05/13/11	M411E13A

rganochlorine Pesticides (EPA 3535A/EPA 8081B)			Al	iquot ID: 444	476-016D	Matrix: Ground Water Analyst: GAN		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Aldrin	<b>0.075</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
2 alpha-BHC (NN)	<b>0.086</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
3. beta-BHC (NN)	0.091	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
4. delta-BHC	<b>0.085</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
5. gamma-BHC (NN)	<b>0.088</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
6.4,4'-DDE	0.082	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
7. 4,4'-DDT	0.083	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
8. Dieldrin	0.087	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
9. Endosulfan I	0.094	μg/L	0.060	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
10. Endosulfan II	0.087	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
11. Endrin	0.087	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
12 Heptachlor	0.082	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
13. Heptachlor Epoxide	<b>0.084</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A

Organochlorine Herbicides (EPA 8151A)			Al	iquot ID: 44	476-016D	Matrix: Ground Water Analyst: TMC		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. 2,4-D	<b>10</b> J,V-	- μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B

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Order: 44476 Page: 39 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW MS

**Ground Water** 

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 16

Collect Date:
Collect Time:

05/10/11 16:00

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Organochlorine Herbicides (EPA 8151A)				Al	476-016D	Matrix: Ground Water Analyst: TMC			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
2.2,4,5-TP (NN)	11	J,V+	μg/L	1.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B

Volatile Organic Compounds (VOCs) by GC/MS (EPA		30B/EPA 8260B)	Al	Aliquot ID: 44476-016			Matrix: Ground Water	
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	130	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	110	μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	140	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	110	μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	130	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	130	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	130	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	79	J,V- μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19.2-Chlorotoluene	120	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	120	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21.1,2-Dibromo-3-chloropropane (NN)	100	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	99	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23.1,2-Dichlorobenzene	100	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
25. 1,4-Dichlorobenzene	100	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	120	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28.1,2-Dichloroethane	260	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29.1,1-Dichloroethene	130	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	130	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32 1,2-Dichloropropane	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34. trans-1,3-Dichloropropene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
35. Ethylbenzene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	220	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

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Order: 44476 40 of 60 Page: Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW MS Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 16

Sample Matrix:

Collect Date:

05/10/11

Client Project No: Sample Comments:

Definitions:

**Ground Water** 

Collect Time: 16:00

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)		Α	liquot ID: 44	476-016	Matrix: Ground Water		Analyst: JAS	
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
37. 2-Hexanone	140	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	120	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl lodide	100	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	130	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
41. 4-Methyl-2-pentanone	140	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42 MTBE	250	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43. Naphthalene	110	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. n-Propylbenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. Styrene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. 1,1,1,2-Tetrachloroethane	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,2,2-Tetrachloroethane	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. Tetrachloroethene	100	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Toluene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50.1,2,4-Trichlorobenzene	110	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51.1,1,1-Trichloroethane	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52.1,1,2-Trichloroethane	100	J,L- μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53. Trichloroethene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichlorofluoromethane	130	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. 1,2,3-Trichloropropane	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trimethylbenzene (NN)	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,4-Trimethylbenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58. 1,3,5-Trimethylbenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. Vinyl Chloride	130	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Xylenes	350	μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535A/EPA 8270C)			Al	iquot ID: 44	476-016D	Matrix: Ground Water Analyst: HLS			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene	66		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
2 Acenaphthylene	68		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
3. Anthracene	67		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
4. Benzo(a)anthracene	71		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
5. Benzo(a)pyrene	72		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
6. Benzo(b)fluoranthene	73		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
7. Benzo(ghi)perylene	64		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
8. Benzo(k)fluoranthene	72		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
9. Chrysene	62		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
10. Dibenzo(a,h)anthracene	68		μg/L	2.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
11. Fluoranthene	72		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
12 Fluorene	69		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
13. Indeno(1,2,3-cd)pyrene	68		μg/L	2.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C

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**Ground Water** 

Order: 44476 Page: 41 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW MS

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 16

Collect Date:
Collect Time:

05/10/11 16:00

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Polynuclear Aromatic Hydrocarbons (PNAs)	AI	476-016D	Matrix: Ground Water Analyst: HLS						
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
14. 2-Methylnaphthalene	55		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
15. Phenanthrene	68		μg/L	2.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
16. Pyrene	71		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C

Cyanide, Total (EPA 9010C/EPA 9014)				AI	476-016C	Matrix: Ground Water Analyst: DN			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Cyanide	230		μg/L	5.0	1.0	05/13/11	PW11E13A	05/13/11	WP11E13A

Inorganic Anions by IC (EPA 9056)				AI	476-016A	Matrix: Gro	Analyst: CML		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1 Sulfate	160000		ua/l	2000	4.0	05/16/11 09:40	PW11F16A	05/17/11 13:	36 WC11F16A



Order: 444 Page: 42 Date: 05/

44476 42 of 60 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW MSD

Chain of Custody:

Collect Date:

108224 05/10/11

Client Project Name: 26500

26500 Northwestern Highway

Sample No: 17

**Ground Water** 

Collect Time: 16:00

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Michigan 10 Elements by ICP/MS, T	otal Recoverable (EP	A 300	5A-M/EPA 6	6020A) AI	) Aliquot ID: 44476-017B			Matrix: Ground Water Analyst: JLH		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch	
1. Arsenic	120		μg/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A	
2 Barium	650		μg/L	100	10	05/12/11	PT11E12D	05/12/11	T211E12A	
3. Cadmium	120		μg/L	1.0	10	05/12/11	PT11E12D	05/12/11	T211E12A	
4. Chromium	210		μg/L	10	10	05/12/11	PT11E12D	05/12/11	T211E12A	
5. Copper	220		μg/L	4.0	10	05/12/11	PT11E12D	05/12/11	T211E12A	
6. Lead	200		μg/L	3.0	10	05/12/11	PT11E12D	05/12/11	T211E12A	
7. Selenium	120		μg/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A	
8. Silver	110		μg/L	0.20	10	05/12/11	PT11E12D	05/12/11	T211E12A	
9. Zinc	540		μg/L	50	10	05/12/11	PT11E12D	05/12/11	T211E12A	

Chromium, Hexavalent, Dissolved (EPA 7196A	<b>A)</b>			Aliquot ID: 44476-017A Matrix: Grou					Analyst: CML
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Chromium VI	51		μg/L	5.0	1.0	NA	NA	05/11/11 13:5	51 WF11E11A

Mercury by CVAAS, Total (EPA 7470A)				Aliquot ID: 44476-017B Matrix: Ground					Analyst: MAP
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Mercury	0.21		μg/L	0.20	1.0	05/13/11	PM11E13A	05/13/11	M411E13A

Organochlorine Pesticides (EPA 35	535A/EPA 8081B)		Aliquot ID: 44476-017D			Matrix: Ground Water Analyst: GAN		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Aldrin	<b>0.059</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
2 alpha-BHC (NN)	<b>0.074</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
3. beta-BHC (NN)	0.080	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
4. delta-BHC	<b>0.075</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
5. gamma-BHC (NN)	<b>0.076</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
6. 4,4'-DDE	0.071	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
7. 4,4'-DDT	0.074	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
8. Dieldrin	0.078	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
9. Endosulfan I	0.083	μg/L	0.060	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
10. Endosulfan II	0.082	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
11. Endrin	0.080	μg/L	0.040	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
12 Heptachlor	0.066	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A
13. Heptachlor Epoxide	<b>0.072</b> J,V+	μg/L	0.020	2.0	05/12/11	PS11E12E	05/16/11	SA11E16A

Organochlorine Herbicides (EPA 8151A)	Organochlorine Herbicides (EPA 8151A)					Aliquot ID: 44476-017D				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch	
1. 2,4-D	11	J,V+	μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B	

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Order: 44476 Page: 43 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW MSD

**Ground Water** 

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Chain of Custody:

108224

Client Project Name: 265

26500 Northwestern Highway

Sample No: 17

Sample Matrix:

Collect Date:

05/10/11

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Collect Time: 16:00

. . . .

Organochlorine Herbicides (EPA 8151A)

Result Q Units Reporting Limit Dilution Prep Date Prep Batch Analysis Date Analysis Batch

2.2,4,5-TP (NN) 11 J,V+ μg/L 1.0 1.0 05/12/11 PS11E12C 05/13/11 SC11E12B

Volatile Organic Compounds (VOCs) by G	C/MS (EPA 50	30B/EF	A 8260B)	Al	iquot ID: 444	176-017	Matrix: Ground Water		nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	130		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	110		μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	130		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	170		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	110		μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	120		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	130		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	93	J,V-	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	110		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	120		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	100		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	98		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23. 1,2-Dichlorobenzene	100		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
25. 1,4-Dichlorobenzene	100		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	120		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28.1,2-Dichloroethane	250		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29. 1,1-Dichloroethene	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	130		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	120		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34. trans-1,3-Dichloropropene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
35. Ethylbenzene	110		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	220		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



Order: 44476 Page: 44 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB8-GW MSD

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 17

Collect Date:

05/10/11

Client Project No:

3.

Sample Matrix: Ground Water

Collect Time: 16:00

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

olatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B		30B/EPA 8260B)	Aliquot ID: 44476-017			Matrix: Ground Water		Analyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
37. 2-Hexanone	140	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	110	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl lodide	130	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	130	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
41. 4-Methyl-2-pentanone	130	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42 MTBE	260	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43. Naphthalene	110	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. n-Propylbenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. Styrene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. 1,1,1,2-Tetrachloroethane	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,2,2-Tetrachloroethane	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. Tetrachloroethene	100	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Toluene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50. 1,2,4-Trichlorobenzene	110	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51. 1,1,1-Trichloroethane	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52 1,1,2-Trichloroethane	100	J,L- μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53. Trichloroethene	100	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichlorofluoromethane	130	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. 1,2,3-Trichloropropane	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trimethylbenzene (NN)	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,4-Trimethylbenzene	120	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58.1,3,5-Trimethylbenzene	110	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. Vinyl Chloride	130	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Xylenes	340	μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

Polynuclear Aromatic Hydrocarbons (P	lynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535A/EPA 8270C)			Al	Aliquot ID: 44476-017D Matrix: Ground Water				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene	74		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
2 Acenaphthylene	76		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
3. Anthracene	73		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
4. Benzo(a)anthracene	77		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
5. Benzo(a)pyrene	79		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
6. Benzo(b)fluoranthene	80		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
7. Benzo(ghi)perylene	69		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
8. Benzo(k)fluoranthene	78		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
9. Chrysene	66		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
10. Dibenzo(a,h)anthracene	74		μg/L	2.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
11. Fluoranthene	79		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
12 Fluorene	76		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
13. Indeno(1,2,3-cd)pyrene	76		μg/L	2.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C

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Order: 44476 45 of 60 Page: Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

SB8-GW MSD Sample Description:

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

17

Collect Date:

05/10/11

Client Project No:

**Ground Water** Sample Matrix:

Collect Time: 16:00

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample No:

Polynuclear Aromatic Hydrocarbons (PNAs	) (EPA 3535 <i>A</i>	VEPA	8270C)	Aliquot ID: 44476-017D			Matrix: Ground Water Analyst: HLS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
14. 2-Methylnaphthalene	63		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
15. Phenanthrene	75		μg/L	2.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
16. Pyrene	78		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C

Cyanide, Total (EPA 9010C/EPA 9014)				AI	476-017C	Matrix: Ground Water Analyst: DMS			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	te Analysis Batch
1. Cyanide	220		μg/L	5.0	1.0	05/13/11	PW11E13A	05/13/11	WP11E13A

Inorganic Anions by IC (EPA 9056)				Aliquot ID: 44476-017A			Matrix: Ground Water Analyst: CM		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Sulfate	160000		μg/L	2000	4.0	05/16/11 09:40	PW11E16A	05/17/11 13	:54 WC11E16A



Order: 44476 46 of 60 Page: Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

SB9-GW Sample Description:

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 18 Collect Date:

05/10/11

Client Project No: Sample Comments:

Sample Matrix: **Ground Water**  Collect Time: 20:40

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Total Recoverable	e (EPA 300	5A-M/EI	PA 6020A)	Ali	iquot ID: 44	476-018A	Matrix: Ground Water Analyst: JLH		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Cadmium	U		μg/L	1.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
2 Chromium	U		μg/L	10	10	05/12/11	PT11E12D	05/12/11	T211E12A
3.Lead	U		μg/L	3.0	10	05/12/11	PT11E12D	05/12/11	T211E12A

Volatile Organic Compounds (VOCs) by G	C/MS (EPA 50	30B/EF	PA 8260B)	AI	iquot ID: 444	476-018	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Acetone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	U		μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	U		μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	U	J,V-	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23. 1,2-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
25. 1,4-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28. 1,2-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29. 1,1-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34 trans-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

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Order: 44476 Page: 47 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB9-GW

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 18

Sample Matrix:

Collect Date:

05/10/11

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report)

PE54232D-06

**Ground Water** 

NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Collect Time: 20:40

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)

Aliquot ID: 44476-018

Matrix: Ground Water

Volatile Organic Compounds (VOCs) by	y GC/MS (EPA 5030E	3/EPA 8260B)	Al	iquot ID: 44	476-018	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
35. Ethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
37. 2-Hexanone	U	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl lodide	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
41. 4-Methyl-2-pentanone	U	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42 MTBE	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43. Naphthalene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. n-Propylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. Styrene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. 1,1,1,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,2,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. Tetrachloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Toluene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50. 1,2,4-Trichlorobenzene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51. 1,1,1-Trichloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52 1,1,2-Trichloroethane	U J,L	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53. Trichloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichlorofluoromethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. 1,2,3-Trichloropropane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trimethylbenzene (NN)	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,4-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58. 1,3,5-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. Vinyl Chloride	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Xylenes	U	μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

Polynuclear Aromatic Hydrocarbons (PNA	s) (EPA 3535A	/EPA	8270C)	Al	iquot ID: 44	Matrix: Gro	und Water A	Analyst: HLS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene	U		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
2 Acenaphthylene	U		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
3. Anthracene	U		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
4. Benzo(a)anthracene	U		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
5. Benzo(a)pyrene	U		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
6. Benzo(b)fluoranthene	U		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
7. Benzo(ghi)perylene	U		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
8. Benzo(k)fluoranthene	U		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
9. Chrysene	U		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
10. Dibenzo(a,h)anthracene	U		μg/L	2.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
11. Fluoranthene	U		μg/L	1.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C

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**Ground Water** 

Order: 44476 Page: 48 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB9-GW

Chain of Custody:

108224

Client Project Name:
Client Project No:

26500 Northwestern Highway

Sample No: 18

Collect Date:
Collect Time:

05/10/11 20:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Polynuclear Aromatic Hydrocarbons	(PNAs) (EPA 3535A	/EPA	8270C)	Aliquot ID: 44476-018B			Matrix: Ground Water Analyst: HLS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
12 Fluorene	U		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
13. Indeno(1,2,3-cd)pyrene	U		μg/L	2.1	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
14. 2-Methylnaphthalene	U		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
15. Phenanthrene	U		μg/L	2.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C
16. Pyrene	U		μg/L	5.0	1.1	05/12/11	PS11E12B	05/12/11	S711E12C



Order: 44476 Page: 49 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: DUP 1

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 19

Collect Date:

05/10/11

Client Project No:

PE54232D-06

Sample Matrix: Ground Water

Collect Time:

NA

Sample Comments:

Definitions: Q: Qualifier (see de

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Recoverable (EPA	3005A-M/EPA	6020A) A	liquot ID: 44	476-019B	Matrix: Gro	und Water	Analyst: JLH
Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
8.1	μg/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
120	μg/L	100	10	05/12/11	PT11E12D	05/12/11	T211E12A
U	μg/L	1.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U	μg/L	10	10	05/12/11	PT11E12D	05/12/11	T211E12A
4.1	μg/L	4.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U	μg/L	3.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U	μg/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U	μg/L	0.20	10	05/12/11	PT11E12D	05/12/11	T211E12A
U	μg/L	50	10	05/12/11	PT11E12D	05/12/11	T211E12A
	Result  8.1  120  U  U  4.1  U  U	Result         Q         Units           8.1         μg/L           120         μg/L           U         μg/L	Result         Q         Units         Reporting Limit           8.1         μg/L         5.0           120         μg/L         100           U         μg/L         1.0           U         μg/L         10           4.1         μg/L         4.0           U         μg/L         3.0           U         μg/L         5.0           U         μg/L         0.20	Result         Q         Units         Reporting Limit         Dilution           8.1         μg/L         5.0         10           120         μg/L         100         10           U         μg/L         1.0         10           U         μg/L         10         10           4.1         μg/L         4.0         10           U         μg/L         3.0         10           U         μg/L         5.0         10           U         μg/L         0.20         10	Result         Q         Units         Reporting Limit         Dilution         Prep Date           8.1         μg/L         5.0         10         05/12/11           120         μg/L         100         10         05/12/11           U         μg/L         1.0         10         05/12/11           U         μg/L         10         10         05/12/11           4.1         μg/L         4.0         10         05/12/11           U         μg/L         3.0         10         05/12/11           U         μg/L         5.0         10         05/12/11           U         μg/L         0.20         10         05/12/11	Result         Q         Units         Reporting Limit         Dilution         Prep Date         Prep Batch           8.1         μg/L         5.0         10         05/12/11         PT11E12D           120         μg/L         100         10         05/12/11         PT11E12D           U         μg/L         1.0         10         05/12/11         PT11E12D           U         μg/L         10         10         05/12/11         PT11E12D           4.1         μg/L         4.0         10         05/12/11         PT11E12D           U         μg/L         3.0         10         05/12/11         PT11E12D           U         μg/L         5.0         10         05/12/11         PT11E12D           U         μg/L         0.20         10         05/12/11         PT11E12D	Result         Q         Units         Reporting Limit         Dilution         Prep Date         Prep Batch         Analysis Date           8.1         μg/L         5.0         10         05/12/11         PT11E12D         05/12/11           120         μg/L         100         10         05/12/11         PT11E12D         05/12/11           U         μg/L         1.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         10         10         05/12/11         PT11E12D         05/12/11           4.1         μg/L         4.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         3.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         5.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         0.20         10         05/12/11         PT11E12D         05/12/11

Chromium, Hexavalent, Dissolved (EPA	ium, Hexavalent, Dissolved (EPA 7196A)				476-019A	Matrix: Ground Water Analyst: CML		
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date Analysis Batch	
1. Chromium VI	U	μg/L	5.0	1.0	NA	NA	05/11/11 13:51 WF11E11A	

Mercury by CVAAS, Total (EPA 7470A)		Aliquot ID: 44476-019B Matrix: Ground Water Analyst							Analyst: MAP
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Mercury	U		μg/L	0.20	1.0	05/13/11	PM11E13A	05/13/11	M411E13A

Organochlorine Pesticides (EPA 3535A/EPA	8081B)		А	liquot ID: 44	476-019D	Matrix: Ground Water Analyst: GAN		
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Aldrin	U	μg/L	0.010	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
2 alpha-BHC (NN)	U	μg/L	0.010	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
3. beta-BHC (NN)	U	μg/L	0.010	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
4. delta-BHC	U	μg/L	0.010	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
5. gamma-BHC (NN)	U	μg/L	0.010	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
6. Chlordane (NN)	U	μg/L	0.050	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
7. 4,4'-DDD	U	μg/L	0.020	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
8. 4,4'-DDE	U	μg/L	0.020	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
9. 4,4'-DDT	U	μg/L	0.020	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
10. Dieldrin	U	μg/L	0.020	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
11. Endosulfan I	U	μg/L	0.030	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
12 Endosulfan II	U	μg/L	0.020	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
13. Endosulfan Sulfate	U	μg/L	0.050	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
14. Endrin	U	μg/L	0.020	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
15. Endrin Aldehyde	U	μg/L	0.020	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
16. Heptachlor	U	μg/L	0.010	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
17. Heptachlor Epoxide	U	μg/L	0.010	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A
18. Methoxychlor	U	μg/L	0.50	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A

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Order: 44476 50 of 60 Page: Date: 05/19/11

Soil and Materials Engineers, Client Identification:

Inc. - Shelby Twp.

PE54232D-06

DUP 1 Sample Description:

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 19 Collect Date:

05/10/11

Client Project No: Sample Comments:

Sample Matrix: **Ground Water**  Collect Time:

NA

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 3535A/EPA 8081B)				Ali	476-019D	Matrix: Ground Water Analyst: GAN			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
19. Toxaphene (NN)	U		μg/L	1.0	1.0	05/12/11	PS11E12E	05/16/11	SA11E16A

Organochlorine Herbicides (EPA 8151A)				AI	iquot ID: 444	176-019D	Matrix: Gro	und Water A	nalyst: TMC
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U		μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
2 Dalapon	U		μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
3.2,4-DB	U		μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
4. Dicamba	U		μg/L	1.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
5. Dichlorprop (NN)	U		μg/L	10	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
6. Dinoseb (NN)	U		μg/L	5.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
7. 2,4,5-T	U		μg/L	1.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B
8.2,4,5-TP (NN)	U		μg/L	1.0	1.0	05/12/11	PS11E12C	05/13/11	SC11E12B

Volatile Organic Compounds (VOCs) by G	C/MS (EPA 50	30B/EPA 826	0B)	Al	iquot ID: 44	1476-019	Matrix: Gro	und Water A	Analyst: JAS
Parameter(s)	Result	Q Uni	ts Re	porting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U	μg/	L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	U	μg/	L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	U	μg/	L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	U	μg/	L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	U	μg/	L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	U	μg/	L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	U	J,V- μg/	L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	U	μg/	L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	U	μg/	L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	U	μg/	L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23. 1,2-Dichlorobenzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	U	μg/	L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

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Order: 44476 Page: 51 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: DUP 1

Sample Matrix:

Chain of Custody:

108224

Client Project Name: 2

26500 Northwestern Highway

Sample No: 19

**Ground Water** 

Collect Date:
Collect Time:

05/10/11

NA

Client Project No:
Sample Comments:

Definitions: Q:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)		Al	iquot ID: 44	476-019	Matrix: Ground Water A		Analyst: JAS	
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
25. 1,4-Dichlorobenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28. 1,2-Dichloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29. 1,1-Dichloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34. trans-1,3-Dichloropropene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
35. Ethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
37. 2-Hexanone	U	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl Iodide	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
41. 4-Methyl-2-pentanone	U	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42 MTBE	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43. Naphthalene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. n-Propylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. Styrene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. 1,1,1,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,2,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. Tetrachloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Toluene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50. 1,2,4-Trichlorobenzene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51. 1,1,1-Trichloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52.1,1,2-Trichloroethane	U	J,L- $\mu$ g/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53. Trichloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichlorofluoromethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. 1,2,3-Trichloropropane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trimethylbenzene (NN)	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,4-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58. 1,3,5-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. Vinyl Chloride	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Xylenes	U	μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535A/EPA 8270C)					Al	iquot ID: 444	176-019D	Matrix: Ground Water Analyst: HLS		
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Acenaphthene		U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
	1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail		Brighto	II 48842 nr, MI 48116 c, MI 49601	T.	(517) 699-03 (810) 220-33 (231) 775-83	00	F: (810)	699-0388 220-3311 775-8584	



Order: 44476 Page: 52 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: DUP 1

Chain of Custody:

108224

Client Project Name:

26500 Northwestern Highway

Sample No: 19

Collect Date:

05/10/11

Client Project No:

. . .

Sample Matrix:

**Ground Water** 

Collect Time:

NA

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report)

NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs	s) (EPA 3535 <i>A</i>	VEPA	8270C)	Al	iquot ID: 444	476-019D	Matrix: Gro	und Water A	nalyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batcl
2 Acenaphthylene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
3. Anthracene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
4. Benzo(a)anthracene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
5. Benzo(a)pyrene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
6. Benzo(b)fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
7. Benzo(ghi)perylene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
8. Benzo(k)fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
9. Chrysene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
10. Dibenzo(a,h)anthracene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
11. Fluoranthene	U		μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
12 Fluorene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
13. Indeno(1,2,3-cd)pyrene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
14. 2-Methylnaphthalene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
15. Phenanthrene	U		μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
16. Pyrene	U		μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
Cyanide, Total (EPA 9010C/EPA 9014)				Al	iquot ID: 444	476-019C	Matrix: Gro	und Water A	nalyst: DMS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batcl
1. Cyanide	U		μg/L	5.0	1.0	05/13/11	PW11E13A	05/13/11	WP11E13A

Inorganic Anions by IC (EPA 9056)	nic Anions by IC (EPA 9056)				Aliquot ID: 44476-019A				Analyst: CML
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Sulfate	140000		μg/L	2000	4.0	05/16/11 09:40	PW11E16A	05/17/11 14	:11 WC11E16A



Order: 44476 Page: 53 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: FIELD BLANK

20

**Ground Water** 

Chain of Custody:

108256

Client Project Name: 26500 Nor

26500 Northwestern Highway Sample No:

Collect Date:
Collect Time:

05/10/11 16:15

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Volatile Organic Compounds (VOCs) by G	C/MS (EPA 50	30B/EF	PA 8260B)	Al	iquot ID: 444	76-020	Matrix: Gro	und Water A	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batcl
1. Acetone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	U		μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	U		μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	U	J,V-	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23. 1,2-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
25. 1,4-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28. 1,2-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29. 1,1-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34. trans-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
35. Ethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
37. 2-Hexanone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl Iodide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



Order: 44476 Page: 54 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: FIELD BLANK

**Ground Water** 

Chain of Custody:

108256

Client Project Name:

26500 Northwestern Highway

Sample No: 20

Collect Time:

05/10/11 16:15

Client Project No:

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Volatile Organic Compounds (VOCs) by	GC/MS (EPA 50	30B/EPA 8260B)	Al	iquot ID: 44	476-020	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
41. 2-Methylnaphthalene (NN)	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42.4-Methyl-2-pentanone	U	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43.MTBE	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. Naphthalene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. n-Propylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. Styrene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,1,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. 1,1,2,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Tetrachloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50. Toluene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51. 1,2,4-Trichlorobenzene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52 1,1,1-Trichloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53.1,1,2-Trichloroethane	U	J,L- μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. Trichlorofluoromethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trichloropropane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,3-Trimethylbenzene (NN)	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58. 1,2,4-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. 1,3,5-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Vinyl Chloride	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
61. Xylenes	U	μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B



Order: 44476 Page: 55 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: **EQUIPMENT BLANK** 

Chain of Custody:

108256

Client Project Name:

26500 Northwestern Highway

Sample No: 21

Collect Date:

05/10/11

Client Project No:

Commonto

Sample Matrix: Ground Water

Collect Time: 16:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

overable (EF	PA 3005	A-M/EPA	5020A) Al	iquot ID: 44	476-021A	Matrix: Gro	und Water A	Analyst: JLH
Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
U		μg/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	100	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	1.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	10	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	4.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	3.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	5.0	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	0.20	10	05/12/11	PT11E12D	05/12/11	T211E12A
U		μg/L	50	10	05/12/11	PT11E12D	05/12/11	T211E12A
	Result  U U U U U U U U U U U U U U	Result Q U U U U U U U U U U U U U U U U U	Result         Q         Units           U         μg/L           U         μg/L	Result         Q         Units         Reporting Limit           U         μg/L         5.0           U         μg/L         100           U         μg/L         1.0           U         μg/L         10           U         μg/L         4.0           U         μg/L         3.0           U         μg/L         5.0           U         μg/L         0.20	Result         Q         Units         Reporting Limit         Dilution           U         μg/L         5.0         10           U         μg/L         100         10           U         μg/L         1.0         10           U         μg/L         10         10           U         μg/L         4.0         10           U         μg/L         3.0         10           U         μg/L         5.0         10           U         μg/L         0.20         10	Result         Q         Units         Reporting Limit         Dilution         Prep Date           U         μg/L         5.0         10         05/12/11           U         μg/L         100         10         05/12/11           U         μg/L         1.0         10         05/12/11           U         μg/L         10         10         05/12/11           U         μg/L         4.0         10         05/12/11           U         μg/L         3.0         10         05/12/11           U         μg/L         5.0         10         05/12/11           U         μg/L         0.20         10         05/12/11	Result         Q         Units         Reporting Limit         Dilution         Prep Date         Prep Batch           U         μg/L         5.0         10         05/12/11         PT11E12D           U         μg/L         100         10         05/12/11         PT11E12D           U         μg/L         1.0         10         05/12/11         PT11E12D           U         μg/L         10         10         05/12/11         PT11E12D           U         μg/L         4.0         10         05/12/11         PT11E12D           U         μg/L         3.0         10         05/12/11         PT11E12D           U         μg/L         5.0         10         05/12/11         PT11E12D           U         μg/L         0.20         10         05/12/11         PT11E12D	Result         Q         Units         Reporting Limit         Dilution         Prep Date         Prep Batch         Analysis Date           U         μg/L         5.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         100         10         05/12/11         PT11E12D         05/12/11           U         μg/L         1.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         10         10         05/12/11         PT11E12D         05/12/11           U         μg/L         4.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         3.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         5.0         10         05/12/11         PT11E12D         05/12/11           U         μg/L         0.20         10         05/12/11         PT11E12D         05/12/11

Mercury by CVAAS, Total (EPA 7470A)	y by CVAAS, Total (EPA 7470A)							Matrix: Ground Water		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch	
1. Mercury	U		μg/L	0.20	1.0	05/13/11	PM11E13A	05/13/11	M411E13A	

Volatile Organic Compounds (VOCs) by G	C/MS (EPA 50	30B/EPA 8260B)	Α	liquot ID: 44	1476-021	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Acetone	U	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2. Acrylonitrile	U	μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	U	μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	U	J,V- μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23.1,2-Dichlorobenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

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Order: 44476 Page: 56 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: **EQUIPMENT BLANK** 

Chain of Custody:

108256

Client Project Name:

26500 Northwestern Highway

Sample No: 21

Collect Date:

05/10/11

Client Project No:

PE54232D-06

Sample Matrix: Ground Water

Collect Time: 16:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/M	MS (EPA 50	30B/EPA 826	OB)	Aliquot ID:	44476-021	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result	Q Uni	s Reporting Li	mit Dilutio	n Prep Date	Prep Batch	Analysis Date	e Analysis Batch
24.1,3-Dichlorobenzene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
25. 1,4-Dichlorobenzene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	U	μg	L 5	5.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28.1,2-Dichloroethane	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29.1,1-Dichloroethene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34. trans-1,3-Dichloropropene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
35. Ethylbenzene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
37. 2-Hexanone	U	μд⁄	L :	50 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	U	μg	L 5	5.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl lodide	U	μg	L 5	5.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	U	μg	L 5	5.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
41. 4-Methyl-2-pentanone	U	μg	L	50 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42 MTBE	U	μg	L 5	5.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43. Naphthalene	U	μg/	L 5	5.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. n-Propylbenzene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. Styrene	U	μg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46.1,1,1,2-Tetrachloroethane	U	μg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,2,2-Tetrachloroethane	U	μg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. Tetrachloroethene	U	μg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Toluene	U	μg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50.1,2,4-Trichlorobenzene	U	μg	L 5	5.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51.1,1,1-Trichloroethane	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52 1,1,2-Trichloroethane	U	J,L- µg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53. Trichloroethene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichlorofluoromethane	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. 1,2,3-Trichloropropane	U	μg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trimethylbenzene (NN)	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,4-Trimethylbenzene	U	μg/	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58.1,3,5-Trimethylbenzene	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. Vinyl Chloride	U	μg	L 1	.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Xylenes	U	μg	L 3	3.0 1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535A/EPA 8270C)					A	liquot ID: 444	76-021B	Matrix: Ground Water Analyst: HLS		
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date Analysis Batch	
	1914 Holloway Drive		Holt, N	11 48842	7	: (517) 699-034	5	F: (517)	699-0388	
	11766 E. Grand River		Brighta	on, MI 48116	7	: (810) 220-330	0	F: (810)	220-3311	
	8660 S. Mackinaw Trail		Cadilla	c, MI 49601	1	: (231) 775-836	8	F: (231)	775-8584	

DCSID: G-610.13 (03/21/11) | lab@fibertec.us | RSN: 44476-110519111125



Order: 44476 Page: 57 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: **EQUIPMENT BLANK** 

Chain of Custody:

108256

Client Project Name:

26500 Northwestern Highway

21

**Ground Water** 

Collect Date:
Collect Time:

05/10/11 16:30

Client Project No:

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample No:

Sample Matrix:

Polynuclear Aromatic Hydrocarbons	(PNAs) (EPA 3535A/EF	PA 8270C)	Al	iquot ID: 444	176-021B	Matrix: Gro	und Water	Analyst: HLS
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene	U	μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
2 Acenaphthylene	U	μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
3. Anthracene	U	μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
4. Benzo(a)anthracene	U	μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
5. Benzo(a)pyrene	U	μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
6. Benzo(b)fluoranthene	U	μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
7. Benzo(ghi)perylene	U	μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
8. Benzo(k)fluoranthene	U	μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
9. Chrysene	U	μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
10. Dibenzo(a,h)anthracene	U	μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
11. Fluoranthene	U	μg/L	1.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
12 Fluorene	U	μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
13. Indeno(1,2,3-cd)pyrene	U	μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
14. 2-Methylnaphthalene	U	μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
15. Phenanthrene	U	μg/L	2.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C
16. Pyrene	U	μg/L	5.0	1.0	05/12/11	PS11E12B	05/12/11	S711E12C



Order: 44476 Page: 58 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: TRIP BLANK

Chain of Custody:

108256

Client Project Name: 26

26500 Northwestern Highway

22

**Ground Water** 

Collect Date:
Collect Time:

05/10/11

NA

Client Project No:

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample No:

Sample Matrix:

Volatile Organic Compounds (VOCs) by G	C/MS (EPA 50	30B/EF	PA 8260B)	Al	iquot ID: 444	176-022	Matrix: Gro	und Water A	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batc
1. Acetone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
2 Acrylonitrile	U		μg/L	2.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
3. Benzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
4. Bromobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
5. Bromochloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
6. Bromodichloromethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
7. Bromoform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
8. Bromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
9. 2-Butanone	U		μg/L	25	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
10. n-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
11. sec-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
12 tert-Butylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
13. Carbon Disulfide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
14. Carbon Tetrachloride	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
15. Chlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
16. Chloroethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
17. Chloroform	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
18. Chloromethane	U	J,V-	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
19. 2-Chlorotoluene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
20. Dibromochloromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
22 Dibromomethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
23. 1,2-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
24. 1,3-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
25. 1,4-Dichlorobenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
26. Dichlorodifluoromethane	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
27. 1,1-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
28. 1,2-Dichloroethane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
29. 1,1-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
30. cis-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
31. trans-1,2-Dichloroethene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
32.1,2-Dichloropropane	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
33. cis-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
34. trans-1,3-Dichloropropene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
35. Ethylbenzene	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
36. Ethylene Dibromide	U		μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
37. 2-Hexanone	U		μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
38. Isopropylbenzene	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
39. Methyl Iodide	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
40. Methylene Chloride	U		μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



Order: 44476 Page: 59 of 60 Date: 05/19/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: TRIP BLANK

**Ground Water** 

Chain of Custody:

108256

Client Project Name:

26500 Northwestern Highway

Sample No: 22

Collect Date:

05/10/11

Client Project No:

PE54232D-06 Sample Matrix:

Collect Time:

NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)			Aliquot ID: 44476-022			Matrix: Ground Water Analyst: JAS		
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
41. 2-Methylnaphthalene (NN)	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
42.4-Methyl-2-pentanone	U	μg/L	50	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
43.MTBE	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
44. Naphthalene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
45. n-Propylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
46. Styrene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
47. 1,1,1,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
48. 1,1,2,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
49. Tetrachloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
50. Toluene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
51. 1,2,4-Trichlorobenzene	U	μg/L	5.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
52 1,1,1-Trichloroethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
53.1,1,2-Trichloroethane	U	J,L- μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
54. Trichloroethene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
55. Trichlorofluoromethane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
56. 1,2,3-Trichloropropane	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
57. 1,2,3-Trimethylbenzene (NN)	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
58. 1,2,4-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
59. 1,3,5-Trimethylbenzene	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
60. Vinyl Chloride	U	μg/L	1.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B
61. Xylenes	U	μg/L	3.0	1.0	05/14/11	VB11E14B	05/15/11	VB11E14B



#### Analytical Laboratory Report Laboratory Project Number: 44476

Order: 44476 Page: 60 of 60 Date: 05/19/11

#### **Definitions/ Qualifiers:**

- A: Spike recovery or precision unusable due to dilution.
- B: The analyte was detected in the associated method blank.
- E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J: The concentration is an estimated value.
- M: Modified Method
- U: The analyte was not detected at or above the reporting limit.
- X: Matrix Interference has resulted in a raised reporting limit or distorted result.
- W: Results reported on a wet-weight basis.
- \*: Value reported is outside QA limits

#### **Exception Summary:**

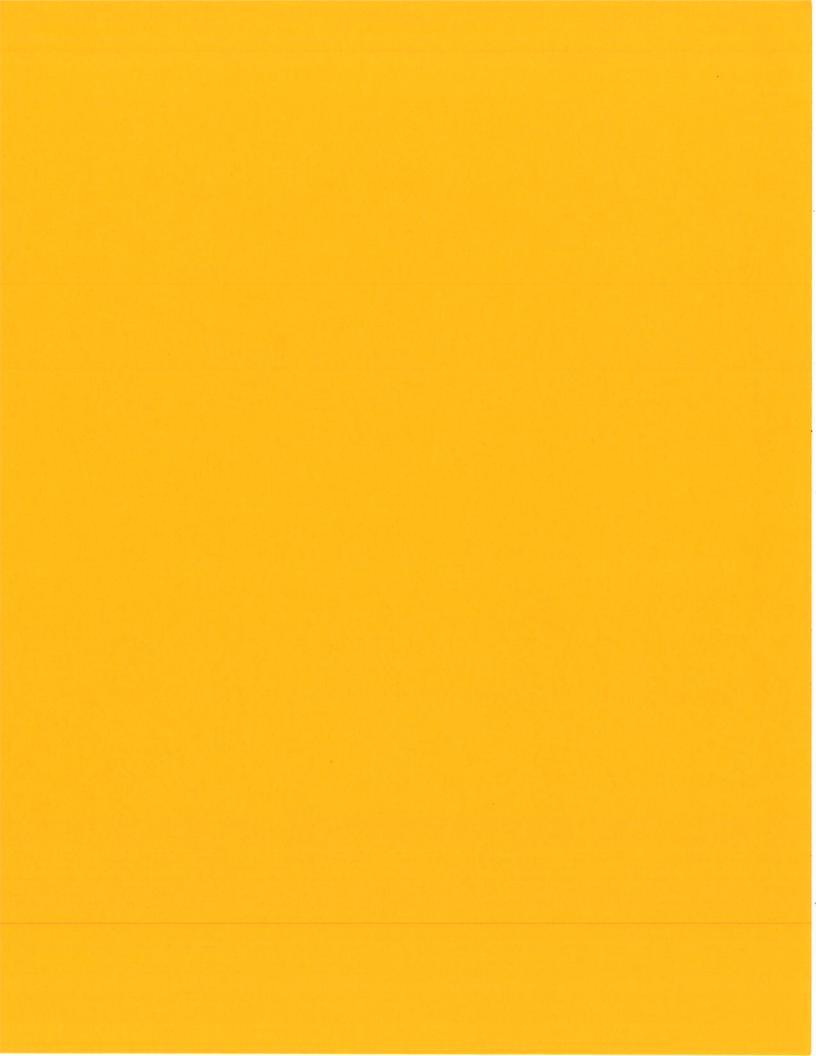
L- : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.

V- : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.

V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.



E-10395





Tuesday, May 24, 2011

Fibertec Project Number: 44583

Project Identification: 26500 Northwestern Highway /PE54232D-06

Submittal Date: 05/17/2011

Ms. Deb Osuch Soil and Materials Engineers, Inc. - Shelby Twp. 13019 Pauline Drive Shelby Township, MI 48315

Dear Ms. Osuch,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note samples will be disposed of 30 days after reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

Daryl P. Strandbergh Laboratory Director

DPS/kc

**Enclosures** 



Order: 44583 Page: 2 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB1-S1

Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

Sample No: 1

Collect Time:

05/16/11 14:25

Client Project No:

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Sample Matrix:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)				Al	583-001A	Matrix: Soil/Solid		Analyst: BMG	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Percent Moisture (Water Content) (NN)	9.3		%	0.1	1.0	05/18/11	MC110518	05/19/11	MC110518

Soil/Solid

Michigan 10 Elements by ICP/N	chigan 10 Elements by ICP/MS (EPA 0200.2-M/EPA 6020A)				Aliquot ID: 44583-001A			Analyst: JLH
Parameter(s)	Result	Q Uni	ts Reporting Limit	t Dilution	n Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Arsenic	1800	μg/ŀ	kg 100	20	05/20/11	PT11E20A	05/20/11	T211E20A
2. Barium	5100	μg/ŀ	kg 1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
3. Cadmium	53	μg/ŀ	kg 50	20	05/20/11	PT11E20A	05/20/11	T211E20A
4. Chromium	2700	μg/ŀ	kg 500	20	05/20/11	PT11E20A	05/20/11	T211E20A
5. Copper	4400	μg/ŀ	kg 1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
6. Lead	2000	μg/ŀ	kg 1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
7. Selenium	U	μg/ŀ	kg 200	20	05/20/11	PT11E20A	05/20/11	T211E20A
8. Silver	U	μg/ŀ	kg 100	20	05/20/11	PT11E20A	05/20/11	T211E20A
9. Zinc	12000	μg/ŀ	kg 1000	20	05/20/11	PT11E20A	05/20/11	T211E20A

Chromium, Hexavalent (EPA 3060A/EPA 719	Aliquot ID: 44583-001A			Matrix: Soil/Solid		Analyst: LRW			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chromium VI	U		μg/kg	2800	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)	y CVAAS (EPA 7471B)				Aliquot ID: 44583-001A				Analyst: MAP
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Mercury	U		μg/kg	50	10	05/19/11	PM11E19D	05/20/11	M411E20B

Volatile Organic Compounds (VOCs) by	GC/MS, 5035 (E	PA 503	35/EPA 826	0B) AI	iquot ID: 44	583-001	Matrix: Soil/Solid A		nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/18/11	V911E18B	05/19/11	V911E18B
2. Acrylonitrile	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
3. Benzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
4. Bromobenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
5. Bromochloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
6. Bromodichloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
7. Bromoform	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
8. Bromomethane	U		μg/kg	200	1.0	05/18/11	V911E18B	05/19/11	V911E18B
9. 2-Butanone	U		μg/kg	750	1.0	05/18/11	V911E18B	05/19/11	V911E18B
10. n-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
13. Carbon Disulfide	U		μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B

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Order: 44583 Page: 3 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB1-S1 Chain of Custody:

108257

Client Project Name: 26500 Northwestern Highway Sample No:

Collect Date:

05/16/11

Client Project No:

Sample Matrix: Soil/Solid Collect Time: 14:25

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/	MS, 5035 (EI	PA 5035/EPA 8	260B) A	liquot ID: 44	4583-001	Matrix: Soil/Solid A		nalyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
14. Carbon Tetrachloride	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
15. Chlorobenzene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
16. Chloroethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
17. Chloroform	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
18. Chloromethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
19. 2-Chlorotoluene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
20. Dibromochloromethane	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/kg	11	1.0	05/18/11	V911E18B	05/19/11	V911E18B
22 Dibromomethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
23. 1,2-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
24. 1,3-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
25. 1,4-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
26. Dichlorodifluoromethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
27. 1,1-Dichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
28. 1,2-Dichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
29.1,1-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
30. cis-1,2-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
31. trans-1,2-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
32.1,2-Dichloropropane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
33. cis-1,3-Dichloropropene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
34. trans-1,3-Dichloropropene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
35. Ethylbenzene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
36. Ethylene Dibromide	U	μg/kg	20	1.0	05/18/11	V911E18B	05/19/11	V911E18B
37. 2-Hexanone	U	μg/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
38. Isopropylbenzene	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
39. Methyl lodide	U	μg/kg	110	1.0	05/18/11	V911E18B	05/19/11	V911E18B
40. Methylene Chloride	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
42 MTBE	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
43. Naphthalene	U	μg/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
44. n-Propylbenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
45. Styrene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
46.1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
47.1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
48. Tetrachloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
49. Toluene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
50. 1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
51.1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
52.1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
53. Trichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B

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Order: 44583 Page: 4 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB1-S1

Chain of Custody:

108257

Client Project Name: 26500 Northwestern Highway

Sample No:

Collect Date:

05/16/11 14:25

Client Project No: **PE54232D-06** 

Sample Matrix: Soil/Solid

Collect Time:

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)		OB) AI	Aliquot ID: 44583-001			Matrix: Soil/Solid			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
54. Trichlorofluoromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
55. 1,2,3-Trichloropropane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
56. 1,2,3-Trimethylbenzene (NN)	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
57. 1,2,4-Trimethylbenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
58. 1,3,5-Trimethylbenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
59. Vinyl Chloride	U		μg/kg	40	1.0	05/18/11	V911E18B	05/19/11	V911E18B
60. Xylenes	U		μg/kg	150	1.0	05/18/11	V911E18B	05/19/11	V911E18B

Polynuclear Aromatic Hydrocarbons	(PNAs) (EPA 35500	/EPA	8270C)	AI	iquot ID: 44	583-001A	Matrix: Soil/Solid		nalyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
2 Acenaphthylene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
3. Anthracene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
4. Benzo(a)anthracene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
5. Benzo(a)pyrene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
6. Benzo(b)fluoranthene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
7. Benzo(ghi)perylene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
8. Benzo(k)fluoranthene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
9. Chrysene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
10. Dibenzo(a,h)anthracene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
11. Fluoranthene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
12 Fluorene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
13. Indeno(1,2,3-cd)pyrene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
14.2-Methylnaphthalene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
15. Phenanthrene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A
16. Pyrene	U		μg/kg	330	1.0	05/20/11	PS11E20B	05/22/11	S711E21A



Order: 44583 Page: 5 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers, Inc. - Shelby Twp.

Client Project Name: Soil and Materials Engineers, Inc. - Shelby Twp.

Sample Description: SB2-S1 Chain of Custody: 108257

Sample No: 2 Collect Date: 05/16/11

Client Project No: PE54232D-06 Sample Matrix: Soil/Solid Collect Time: 14:15

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)				Ali	583-002A	Matrix: Soil/Solid		Analyst: BMG	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	6.5		%	0.1	1.0	05/18/11	MC110518	05/19/11	MC110518

Michigan 10 Elements by ICP/MS	chigan 10 Elements by ICP/MS (EPA 0200.2-M/EPA 6020A)			Aliquot ID: 44583-002A			Matrix: Soil/Solid A	
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	2000	μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
2 Barium	4700	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
3. Cadmium	U	μg/kg	50	20	05/20/11	PT11E20A	05/20/11	T211E20A
4. Chromium	3000	μg/kg	500	20	05/20/11	PT11E20A	05/20/11	T211E20A
5. Copper	4800	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
6. Lead	2600	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
7. Selenium	210	μg/kg	200	20	05/20/11	PT11E20A	05/20/11	T211E20A
8. Silver	U	μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
9. Zinc	13000	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A

Chromium, Hexavalent (EPA 3060A/EPA 7196	Aliquot ID: 44583-002A			Matrix: Soil/Solid		Analyst: LRW			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Chromium VI	U		μg/kg	2700	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)	CVAAS (EPA 7471B)				583-002A	Matrix: Soil/Solid A		Analyst: MAP
Parameter(s)	Result (	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Mercury	U	μg/kg	50	10	05/19/11	PM11E19D	05/20/11	M411E20B

Volatile Organic Compounds (VOCs) by	GC/MS, 5035 (E	PA 503	5/EPA 826	0B) AI	iquot ID: 445	583-002	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/18/11	V911E18B	05/19/11	V911E18B
2 Acrylonitrile	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
3. Benzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
4. Bromobenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
5. Bromochloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
6. Bromodichloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
7. Bromoform	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
8. Bromomethane	U		μg/kg	200	1.0	05/18/11	V911E18B	05/19/11	V911E18B
9. 2-Butanone	U		μg/kg	750	1.0	05/18/11	V911E18B	05/19/11	V911E18B
10. n-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
13. Carbon Disulfide	U		μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B

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2

Soil/Solid

Order: 44583 Page: 6 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB2-S1

Chain of Custody:

108257

Client Project Name: 26500 I

Client Project No:

26500 Northwestern Highway Sample No:

Collect Date:

05/16/11

PE54232D-06 Sample Matrix:

Collect Time: 14:15

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/	MS, 5035 (EI	PA 5035/EPA 8	260B) A	liquot ID: 4	4583-002	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
14. Carbon Tetrachloride	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
15. Chlorobenzene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
16. Chloroethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
17. Chloroform	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
18. Chloromethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
19. 2-Chlorotoluene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
20. Dibromochloromethane	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/kg	11	1.0	05/18/11	V911E18B	05/19/11	V911E18B
22 Dibromomethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
23. 1,2-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
24. 1,3-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
25. 1,4-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
26. Dichlorodifluoromethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
27. 1,1-Dichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
28. 1,2-Dichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
29.1,1-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
30. cis-1,2-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
31. trans-1,2-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
32.1,2-Dichloropropane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
33. cis-1,3-Dichloropropene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
34. trans-1,3-Dichloropropene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
35. Ethylbenzene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
36. Ethylene Dibromide	U	μg/kg	20	1.0	05/18/11	V911E18B	05/19/11	V911E18B
37. 2-Hexanone	U	μg/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
38. Isopropylbenzene	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
39. Methyl lodide	U	μg/kg	110	1.0	05/18/11	V911E18B	05/19/11	V911E18B
40. Methylene Chloride	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
42 MTBE	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
43. Naphthalene	U	μg/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
44. n-Propylbenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
45. Styrene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
46.1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
47.1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
48. Tetrachloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
49. Toluene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
50.1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
51.1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
52.1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
53. Trichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368 F: (517) 699-0388 F: (810) 220-3311 F: (231) 775-8584



Soil/Solid

Order: 44583 Page: 7 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB2-S1 Chain of Custody:

Collect Date:

108257

Client Project Name:

Client Project No:

26500 Northwestern Highway

2 Sample No:

Collect Time:

05/16/11 14:15

Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by	y GC/MS, 5035 (E	PA 50	35/EPA 826	0B) AI	iquot ID: 445	583-002	Matrix: Soil	/Solid	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
54. Trichlorofluoromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
55. 1,2,3-Trichloropropane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
56. 1,2,3-Trimethylbenzene (NN)	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
57. 1,2,4-Trimethylbenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
58. 1,3,5-Trimethylbenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
59. Vinyl Chloride	U		μg/kg	40	1.0	05/18/11	V911E18B	05/19/11	V911E18B
60. Xylenes	U		μg/kg	150	1.0	05/18/11	V911E18B	05/19/11	V911E18B

Polynuclear Aromatic Hydrocarbons (Pl	NAs) (EPA 35500	/EPA	8270C)	Al	iquot ID: 44	583-002A	Matrix: Soil	trix: Soil/Solid Analyst: HLS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch	
1. Acenaphthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
2 Acenaphthylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
3. Anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
4. Benzo(a)anthracene (SIM)	U		μg/kg	570	40	05/20/11	PS11E20B	05/21/11	S711E21A	
5. Benzo(a)pyrene (SIM)	U		μg/kg	570	40	05/20/11	PS11E20B	05/21/11	S711E21A	
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
9. Chrysene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
11. Fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
12 Fluorene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	570	40	05/20/11	PS11E20B	05/21/11	S711E21A	
14. 2-Methylnaphthalene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
15. Phenanthrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	
16. Pyrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A	



Client Project No:

## Analytical Laboratory Report Laboratory Project Number: 44583 Laboratory Sample Number: 44583-004

SB3-S2

Soil/Solid

Order: 44583 Page: 8 of 31 Date: 05/24/11

05/16/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

- Snelby Twp.

Chain of Custody: 108257

Client Project Name: 26500 Northwestern Highway Sample No: 4

Collect Time: 13:15

Collect Date:

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Sample Description:

Dry Weight Determination (ASTM D 2974-87	)			AI	iquot ID: 44	583-004A	Matrix: Soil	/Solid /	Analyst: BMG
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	15		%	0.1	1.0	05/18/11	MC110518	05/19/11	MC110518

Michigan 10 Elements by ICP/MS (E	PA 0200.2-M/EPA 6020	0A)	Al	iquot ID: 44	583-004A	Matrix: Soil	l/Solid A	Analyst: JLH
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	4000	μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
2 Barium	72000	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
3. Cadmium	780	μg/kg	50	20	05/20/11	PT11E20A	05/20/11	T211E20A
4. Chromium	19000	μg/kg	500	20	05/20/11	PT11E20A	05/20/11	T211E20A
5. Copper	32000	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
6. Lead	130000	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
7. Selenium	350	μg/kg	200	20	05/20/11	PT11E20A	05/20/11	T211E20A
8. Silver	350	μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
9. Zinc	390000	μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A

Chromium, Hexavalent (EPA 3060A/EPA 7196	6A)			Al	iquot ID: 445	583-004A	Matrix: Soil	/Solid	Analyst: LRW
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Chromium VI	U		μg/kg	2900	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)			Al	iquot ID: 44	583-004A	Matrix: Soil	/Solid	Analyst: MAP
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Mercury	U	μg/kg	50	10	05/19/11	PM11E19D	05/20/11	M411E20B

Volatile Organic Compounds (VOCs) by	GC/MS, 5035 (E	PA 503	35/EPA 826	0B) AI	iquot ID: 44	583-004	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/18/11	V911E18B	05/19/11	V911E18B
2 Acrylonitrile	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
3. Benzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
4. Bromobenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
5. Bromochloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
6. Bromodichloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
7. Bromoform	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
8. Bromomethane	U		μg/kg	200	1.0	05/18/11	V911E18B	05/19/11	V911E18B
9. 2-Butanone	U		μg/kg	750	1.0	05/18/11	V911E18B	05/19/11	V911E18B
10. n-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
13. Carbon Disulfide	U		μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B

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4

Soil/Solid

Order: 44583 Page: 9 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB3-S2

Chain of Custody:

108257

Client Project Name: 26500 Northwestern Highway

Sample No:

Collect Date:

05/16/11

Client Project No: PE54232D-06

PE54232D-06 Sample Matrix:

Collect Time: 13:15

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Parameter(s)	Volatile Organic Compounds (VOCs) by GC/	MS, 5035 (E	PA 5035/EPA 826	60B) A	liquot ID: 44	1583-004	Matrix: Soil	/Solid A	nalyst: JAS
16 Chlorobenzene         U         μpkg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           16 Chlorocerbane         U         μpkg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           12 Chloromethane         U         μpkg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           20 Chloromethane         U         μpkg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           20 Dibromon-Schloroprogane (NN)         U         μpkg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           21 1.2 Dibromon-Schloroprogane (NN)         U         μpkg         20         1.0         05/18/11         V911E18B         05/19/11         V911E18B           21 1.2 Dibromon-Schloroprogane (NN)         U         μpkg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B           21 1.2 Dichloroberbane         U         μpkg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B           21 1.4 Dichloroberbane         U	Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
16 Chloroethane U pg/kg 250 1.0 05/18/11 V911E188 05/19/11 V911E188 12 Chloroethane U pg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 13 Chloroethane U pg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 13 Chloroethane U pg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 13 Chloroethane U pg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 13 Chloroethane U pg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 05/	14. Carbon Tetrachloride	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
17. Chloroform	15. Chlorobenzene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
18. Chloromethane U µg/kg 250 1.0 05/18/11 V911E188 05/19/11 V911E188 19.2-Chlorodoluene U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 19.2-Chlorodoluene U µg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.1.2-Dibromo-3-chloropropane (NN) U µg/kg 12 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.1.2-Dibromo-3-chloropropane (NN) U µg/kg 250 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.1.2-Dibromo-3-chloropropane (NN) U µg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.1.2-Dibromo-3-chloropropane (NN) U µg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.2-Dichlorobenzene U µg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.2-Dichlorobenzene U µg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.4-Dichlorobenzene U µg/kg 100 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.4-Dichlorobenzene U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.4-Dichlorobenzene U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.4-Dichlorobethane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.4-Dichlorobethane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1.4-Dichlorobethane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichlorobethane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichlorobethane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloropropane U µg/kg 50 1.0 05/18/11 V911E188 05/19/11 V911E188 12.1-Dichloroprop	16. Chloroethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
19.2-Chlorotoluene	17. Chloroform	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
20 Dibromochloromethane   U	18. Chloromethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
21.1-2-Dibromo-3-chloropropane (NN)	19. 2-Chlorotoluene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
22 Dibromomethane   U	20. Dibromochloromethane	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
23.1,2-Dichlorobenzene   U   μg/kg   100   1.0   05/18/11   V911E18B   05/19/11   V911E18B   24.1,3-Dichlorobenzene   U   μg/kg   100   1.0   05/18/11   V911E18B   05/19/11   V911E18B   25.1,4-Dichlorobenzene   U   μg/kg   250   1.0   05/18/11   V911E18B   05/19/11   V911E18B   25.0 Dichlorodfluoromethane   U   μg/kg   250   1.0   05/18/11   V911E18B   05/19/11   V911E18B   27.1,1-Dichloroethane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   28.1,2-Dichloroethane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   28.1,2-Dichloroethane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   28.1,1-Dichloroethane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   30.6is-1,2-Dichloroethane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   32.1,2-Dichloroethane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   32.1,2-Dichloroethane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   32.1,2-Dichloropropane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   33.6 Ethylenopropane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   35.6 Ethylenopropane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   35.E Ethylenopropane   U   μg/kg   50   1.0   05/18/11   V911E18B   05/19/11   V911E18B   35.E Ethylenopropane   U   μg/kg   20   1.0   05/18/11   V911E18B   05/19/11   V911E18B   37.2-Hexanone   U   μg/kg   250   1.0   05/18/11   V911E18B   05/19/11   V911E18B   37.2-Hexanone   U   μg/kg   250   1.0   05/18/11   V911E18B   05/19/11   V911E18B   38. Borpopylbenzene   U   μg/kg   250   1.0   05/18/11   V911E18B   05/19/11   V911E18B   38. Borpopylbenzene   U   μg/kg   250   1.0   05/18/11   V911E18B   05/19/11   V911E18B   41.4-Methyl-2-pentanone   U   μg/kg   30   1.0   05/18/11   V911E18B   05/19/11   V911E18B   41.4-Methyl-2-pentanone   U   μg/kg   30   1.0   05/18/11   V911E18B   05/19/11   V911E18B   41.4-Methyl-2-pentanone   U   μg/kg   5	21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/kg	12	1.0	05/18/11	V911E18B	05/19/11	V911E18B
24.1,3-Dichlorobenzene         U         μg/kg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B           25.1,4-Dichlorobenzene         U         μg/kg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B	22 Dibromomethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
25.1,4-Dichlorobenzene         U         μg/kg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B           26 Dichlorodiffluoromethane         U         μg/kg         250         1.0         05/18/11         V911E18B         05/19/11         V911E18B           27.1,1-Dichloroethane         U         μg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           28.1,2-Dichloroethane         U         μg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           29.1,1-Dichloroethane         U         μg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           30. dis-1,2-Dichloropropene         U         μg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           31.trans-1,2-Dichloropropene         U         μg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           33.cis-1,3-Dichloropropene         U         μg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           35.Ethylsen Dibromide	23. 1,2-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
26 Dichlorodifluoromethane	24.1,3-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
27.1,1-Dichloroethane   U	25. 1,4-Dichlorobenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
28.1,2-Dichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         29.1,1-Dichloroethene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         30. cis-1,2-Dichloroethene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         32.1,2-Dichloropropane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         33. cis-1,3-Dichloropropane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         34. trans-1,3-Dichloropropene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         35. Ethylbenzene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         37. 2-Hexanone       U       μg/kg       2500       1.0       05/18/11       V911E18B       05/19/11       V911E18B         38. Isopropylbenzene       U       μg/kg       250       1.0       05/18/11       V911E18B       05/19/11       V911	26. Dichlorodifluoromethane	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
29.1,1-Dichloroethene   U	27. 1,1-Dichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
30. cis-1,2-Dichloroethene	28. 1,2-Dichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
31. trans-1,2-Dichloroethene	29.1,1-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
32 1,2-Dichloropropane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 33 cis-1,3-Dichloropropene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 34 trans-1,3-Dichloropropene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 35. Ethylbenzene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 36. Ethylbenzene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 36. Ethylene Dibromide  U μg/kg 20 1.0 05/18/11 V911E18B 05/19/11 V911E18B 37. 2-Hexanone  U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 38. Isopropylbenzene  U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 39. Methyl lodide  U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 40. Methylene Chloride  U μg/kg 120 1.0 05/18/11 V911E18B 05/19/11 V911E18B 41. 4-Methyl-2-pentanone  U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 42. MTBE  U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. n-Propylbenzene  U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. n-Propylbenzene  U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,1,2-Tetrachloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2,2-Tetrachloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichloroethane  U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	30. cis-1,2-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
33. cis-1,3-Dichloropropene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 34. trans-1,3-Dichloropropene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 35. Ethylbenzene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 36. Ethylene Dibromide U μg/kg 20 1.0 05/18/11 V911E18B 05/19/11 V911E18B 37. 2-Hexanone U μg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 38. Isopropylbenzene U μg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 39. Methyl lodide U μg/kg 120 1.0 05/18/11 V911E18B 05/19/11 V911E18B 40. Methylene Chloride U μg/kg 120 1.0 05/18/11 V911E18B 05/19/11 V911E18B 40. Methylene Chloride U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 41. 4-Methyl-2-pentanone U μg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 42. MTBE U μg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 43. Naphthalene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. η-Propylbenzene U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	31. trans-1,2-Dichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
34. trans-1,3-Dichloropropene         U         µg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           35. Ethylbenzene         U         µg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           36. Ethylene Dibromide         U         µg/kg         20         1.0         05/18/11         V911E18B         05/19/11         V911E18B           37. 2-Hexanone         U         µg/kg         250         1.0         05/18/11         V911E18B         05/19/11         V911E18B           38. Isopropylbenzene         U         µg/kg         250         1.0         05/18/11         V911E18B         05/19/11         V911E18B           39. Methyl lodide         U         µg/kg         120         1.0         05/18/11         V911E18B         05/19/11         V911E18B           40. Methylene Chloride         U         µg/kg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B           41.4-Methyl-2-pentanone         U         µg/kg         2500         1.0         05/18/11         V911E18B         05/19/11         V911E18B           42 MTBE         U         µg/kg	32 1,2-Dichloropropane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
35. Ethylbenzene         U         µg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           36. Ethylene Dibromide         U         µg/kg         20         1.0         05/18/11         V911E18B         05/19/11         V911E18B           37. 2-Hexanone         U         µg/kg         250         1.0         05/18/11         V911E18B         05/19/11         V911E18B           38. Isopropylbenzene         U         µg/kg         250         1.0         05/18/11         V911E18B         05/19/11         V911E18B           39. Methyl lodide         U         µg/kg         120         1.0         05/18/11         V911E18B         05/19/11         V911E18B           40. Methylene Chloride         U         µg/kg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B           41. 4-Methyl-2-pentanone         U         µg/kg         2500         1.0         05/18/11         V911E18B         05/19/11         V911E18B           42 MTBE         U         µg/kg         330         1.0         05/18/11         V911E18B         05/19/11         V911E18B           43. Naphthalene         U         µg/kg         300 <td>33. cis-1,3-Dichloropropene</td> <td>U</td> <td>μg/kg</td> <td>50</td> <td>1.0</td> <td>05/18/11</td> <td>V911E18B</td> <td>05/19/11</td> <td>V911E18B</td>	33. cis-1,3-Dichloropropene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
36 Ethylene Dibromide  U µg/kg 20 1.0 05/18/11 V911E18B 05/19/11 V911E18B 37.2-Hexanone  U µg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 38. Isopropylbenzene  U µg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 39. Methyl lodide  U µg/kg 120 1.0 05/18/11 V911E18B 05/19/11 V911E18B 40. Methylene Chloride  U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 41. 4-Methyl-2-pentanone  U µg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 41. 4-Methyl-2-pentanone  U µg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 42. MTBE  U µg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 43. Naphthalene  U µg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. n-Propylbenzene  U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene  U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,1,2-Tetrachloroethane  U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2,2-Tetrachloroethane  U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane  U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane  U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1/9/11 V911E18B	34. trans-1,3-Dichloropropene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
37.2-Hexanone         U         µg/kg         2500         1.0         05/18/11         V911E18B         05/19/11         V911E18B           38. Isopropylbenzene         U         µg/kg         250         1.0         05/18/11         V911E18B         05/19/11         V911E18B           39. Methyl lodide         U         µg/kg         120         1.0         05/18/11         V911E18B         05/19/11         V911E18B           40. Methylene Chloride         U         µg/kg         100         1.0         05/18/11         V911E18B         05/19/11         V911E18B           41. 4-Methyl-2-pentanone         U         µg/kg         2500         1.0         05/18/11         V911E18B         05/19/11         V911E18B           42 MTBE         U         µg/kg         250         1.0         05/18/11         V911E18B         05/19/11         V911E18B           43. Naphthalene         U         µg/kg         330         1.0         05/18/11         V911E18B         05/19/11         V911E18B           44. n-Propylbenzene         U         µg/kg         50         1.0         05/18/11         V911E18B         05/19/11         V911E18B           45. Styrene         U         µg/kg         50	35. Ethylbenzene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
38. Isopropylbenzene U µg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 39. Methyl lodide U µg/kg 120 1.0 05/18/11 V911E18B 05/19/11 V911E18B 40. Methylene Chloride U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 41. 4-Methyl-2-pentanone U µg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 42. MTBE U µg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 43. Naphthalene U µg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. n-Propylbenzene U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,1,2-Tetrachloroethane U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2,2-Tetrachloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichloroethane U µg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	36. Ethylene Dibromide	U	μg/kg	20	1.0	05/18/11	V911E18B	05/19/11	V911E18B
39. Methyl lodide U μg/kg 120 1.0 05/18/11 V911E18B 05/19/11 V911E18B 40. Methylene Chloride U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 41. 4-Methyl-2-pentanone U μg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B 42. MTBE U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 43. Naphthalene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. n-Propylbenzene U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,2-Tetrachloroethane U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	37.2-Hexanone	U	μg/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
40. Methylene Chloride  U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B  41. 4-Methyl-2-pentanone  U μg/kg 2500 1.0 05/18/11 V911E18B 05/19/11 V911E18B  42. MTBE  U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B  43. Naphthalene  U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B  44. n-Propylbenzene  U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B  45. Styrene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B  46. 1,1,1,2-Tetrachloroethane  U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B  47. 1,1,2,2-Tetrachloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B  48. Tetrachloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B  48. Tetrachloroethene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B  49. Toluene  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B  50. 1,2,4-Trichloroethane  U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B  51. 1,1,1-Trichloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B  51. 1,1,1-Trichloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B  51. 1,1,1-Trichloroethane  U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	38. Isopropylbenzene	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
41.4-Methyl-2-pentanone       U       μg/kg       2500       1.0       05/18/11       V911E18B       05/19/11       V911E18B         42 MTBE       U       μg/kg       250       1.0       05/18/11       V911E18B       05/19/11       V911E18B         43 Naphthalene       U       μg/kg       330       1.0       05/18/11       V911E18B       05/19/11       V911E18B         44. n-Propylbenzene       U       μg/kg       100       1.0       05/18/11       V911E18B       05/19/11       V911E18B         45 Styrene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         46 1,1,1,2-Tetrachloroethane       U       μg/kg       100       1.0       05/18/11       V911E18B       05/19/11       V911E18B         47. 1,1,2,2-Tetrachloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         48. Tetrachloroethene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         49. Toluene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B	39. Methyl lodide	U	μg/kg	120	1.0	05/18/11	V911E18B	05/19/11	V911E18B
42 MTBE U μg/kg 250 1.0 05/18/11 V911E18B 05/19/11 V911E18B 43. Naphthalene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. n-Propylbenzene U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,1,2-Tetrachloroethane U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	40. Methylene Chloride	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
43. Naphthalene U µg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 44. n-Propylbenzene U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 45. Styrene U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,1,2-Tetrachloroethane U µg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2,2-Tetrachloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethene U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichlorobenzene U µg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U µg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
44.n-Propylbenzene       U       μg/kg       100       1.0       05/18/11       V911E18B       05/19/11       V911E18B         45. Styrene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         46. 1,1,2-Tetrachloroethane       U       μg/kg       100       1.0       05/18/11       V911E18B       05/19/11       V911E18B         47. 1,1,2,2-Tetrachloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         48. Tetrachloroethene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         49. Toluene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         50. 1,2,4-Trichlorobenzene       U       μg/kg       330       1.0       05/18/11       V911E18B       05/19/11       V911E18B         51.1,1,1-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         52.1,2-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B <td>42 MTBE</td> <td>U</td> <td>μg/kg</td> <td>250</td> <td>1.0</td> <td>05/18/11</td> <td>V911E18B</td> <td>05/19/11</td> <td>V911E18B</td>	42 MTBE	U	μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
45. Styrene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 46. 1,1,1,2-Tetrachloroethane U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 52. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	43. Naphthalene	U	μg/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
46.1,1,1,2-Tetrachloroethane U μg/kg 100 1.0 05/18/11 V911E18B 05/19/11 V911E18B 47.1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50.1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51.1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51.1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	44. n-Propylbenzene	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 48. Tetrachloroethene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	45. Styrene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
48. Tetrachloroethene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 49. Toluene U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 50. 1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/18/11 V911E18B 05/19/11 V911E18B 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B 52. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	46.1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
49. Toluene       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         50. 1,2,4-Trichlorobenzene       U       μg/kg       330       1.0       05/18/11       V911E18B       05/19/11       V911E18B         51. 1,1,1-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         52 1,1,2-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B	47. 1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
50.1,2,4-Trichlorobenzene       U       μg/kg       330       1.0       05/18/11       V911E18B       05/19/11       V911E18B         51.1,1,1-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         52.1,1,2-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B	48. Tetrachloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
51.1,1,1-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B         52 1,1,2-Trichloroethane       U       μg/kg       50       1.0       05/18/11       V911E18B       05/19/11       V911E18B	49. Toluene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
52.1,1,2-Trichloroethane U μg/kg 50 1.0 05/18/11 V911E18B 05/19/11 V911E18B	50.1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
	51.1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
$ 53. Trichloroethene \qquad \qquad U \qquad \mu g/kg \qquad \qquad 50 \qquad 1.0 \qquad 05/18/11 \qquad V911E18B \qquad 05/19/11 \qquad V911E18B $	52.1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
	53. Trichloroethene	U	μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



Order: 44583 Page: 10 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB3-S2

Chain of Custody:

Collect Time:

108257

13:15

Client Project Name:

26500 Northwestern Highway

Sample No: 4

Soil/Solid

Collect Date: **05/16/11** 

Client Project No:

Sample Comments:

Definitions:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Sample Matrix:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)		OB) AI	Aliquot ID: 44583-004			Matrix: Soil/Solid A			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
54. Trichlorofluoromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
55. 1,2,3-Trichloropropane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
56.1,2,3-Trimethylbenzene (NN)	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
57. 1,2,4-Trimethylbenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
58.1,3,5-Trimethylbenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
59. Vinyl Chloride	U		μg/kg	40	1.0	05/18/11	V911E18B	05/19/11	V911E18B
60. Xylenes	U		μg/kg	150	1.0	05/18/11	V911E18B	05/19/11	V911E18B

Polynuclear Aromatic Hydrocarbons (Pl	NAs) (EPA 35500	C/EPA	8270C)	Al	iquot ID: 44	583-004A	Matrix: Soil	/Solid A	nalyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
2 Acenaphthylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
3. Anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
4. Benzo(a)anthracene (SIM)	U		μg/kg	630	40	05/20/11	PS11E20B	05/21/11	S711E21A
5. Benzo(a)pyrene (SIM)	U		μg/kg	630	40	05/20/11	PS11E20B	05/21/11	S711E21A
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
9. Chrysene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
11. Fluoranthene (SIM)	380		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
12 Fluorene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	630	40	05/20/11	PS11E20B	05/21/11	S711E21A
14.2-Methylnaphthalene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
15. Phenanthrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
16. Pyrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A



Order: 44583 11 of 31 Page: Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB10-S1 Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

6 Sample No:

Collect Date: Collect Time: 05/16/11 12:00

Client Project No: Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)	)			Al	Aliquot ID: 44583-006A			Matrix: Soil/Solid	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
Percent Moisture (Water Content) (NN)	9.5		%	0.1	1.0	05/18/11	MC110518	05/19/11	MC110518

Soil/Solid

Michigan 10 Elements by ICP/N	MS (EPA 0200.2-M/EPA 60	20A)		Al	iquot ID: 44	583-006A	Matrix: Soil/Solid Analyst: JLH		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	2900		μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
2. Barium	9700		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
3. Cadmium	150		μg/kg	50	20	05/20/11	PT11E20A	05/20/11	T211E20A
4. Chromium	6100		μg/kg	500	20	05/20/11	PT11E20A	05/20/11	T211E20A
5. Copper	5500		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
6. Lead	7400		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
7. Selenium	280		μg/kg	200	20	05/20/11	PT11E20A	05/20/11	T211E20A
8. Silver	U		μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
9. Zinc	21000		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A

Chromium, Hexavalent (EPA 3060A/EPA 719	6A)			Aliquot ID: 44583-006A			Matrix: Soil/Solid An		Analyst: LRW
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chromium VI	U		μg/kg	2800	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)			Aliquot ID: 44583-006A			Matrix: Soil/Solid A		Analyst: MAP
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Mercury	U	μg/kg	50	10	05/19/11	PM11E19D	05/20/11	M411E20B

Organochlorine Pesticides (EPA 3550C/EP	A 8081B)			AI	iquot ID: 44	583-006A	Matrix: Soil/Solid Analyst: GAN		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
2 alpha-BHC (NN)	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
3. beta-BHC (NN)	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
4. delta-BHC	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
5. gamma-BHC (NN)	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
6. Chlordane (NN)	U		μg/kg	28	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
7. 4,4'-DDD	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
8. 4,4'-DDE	72		μg/kg	22	1.0	05/19/11	PS11E19D	05/23/11	SA11E23A
9. 4,4'-DDT	31		μg/kg	22	1.0	05/19/11	PS11E19D	05/23/11	SA11E23A
10. Dieldrin	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
11. Endosulfan I	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
12 Endosulfan II	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
13. Endosulfan Sulfate	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A

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Order: 44583 Page: 12 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB10-S1

Chain of Custody:

Collect Date:

108257

Client Project Name:

26500 Northwestern Highway

Sample No: 6

05/16/11

Client Project No:

PE54232D-06 Sample Matrix:

Soil/Solid Collect Time:

ne: **12:00** 

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 35	50C/EPA 8081B)			Al	Aliquot ID: 44583-006A			/Solid	Analyst: GAN
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
14. Endrin	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
15. Endrin Aldehyde	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
16. Heptachlor	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
17. Heptachlor Epoxide	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
18. Methoxychlor	U		μg/kg	55	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
19. Toxaphene (NN)	U		μg/kg	190	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A

Organochlorine Herbicides (EPA 3550C/EPA	anochlorine Herbicides (EPA 3550C/EPA 8151A)		Aliquot ID: 44583-006A			Matrix: Soil/Solid		Analyst: TMC
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
2 Dalapon	U	μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
3.2,4-DB	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
4. Dicamba	U	μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
5. Dichlorprop (NN)	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
6. Dinoseb (NN)	U	μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
7. 2,4,5-T	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
8.2,4,5-TP (NN)	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B

Volatile Organic Compounds (VOCs)	by GC/MS, 5035 (E	PA 503	35/EPA 826	0B) AI	iquot ID: 445	83-006	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/18/11	V911E18B	05/19/11	V911E18B
2. Acrylonitrile	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
3. Benzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
4. Bromobenzene	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
5. Bromochloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
6. Bromodichloromethane	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
7. Bromoform	U		μg/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
8. Bromomethane	U		μg/kg	200	1.0	05/18/11	V911E18B	05/19/11	V911E18B
9. 2-Butanone	U		μg/kg	750	1.0	05/18/11	V911E18B	05/19/11	V911E18B
10. n-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
13. Carbon Disulfide	U		μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
14. Carbon Tetrachloride	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
15. Chlorobenzene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
16. Chloroethane	U		μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
17. Chloroform	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
18. Chloromethane	U		μg/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
19. 2-Chlorotoluene	U		μg/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B

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Soil/Solid

Order: 44583 13 of 31 Page: Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB10-S1 Chain of Custody:

Collect Date:

108257

Client Project Name:

26500 Northwestern Highway

Sample No: 6

Collect Time:

05/16/11 12:00

Client Project No: Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by G	C/MS, 5035 (EI	PA 5035/EP	A 826	0B) A	iquot ID: 44	583-006	Matrix: Soil	/Solid A	Analyst: JAS
Parameter(s)	Result	Q Ur	nits	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
20. Dibromochloromethane	U	μg	/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg	/kg	11	1.0	05/18/11	V911E18B	05/19/11	V911E18B
22 Dibromomethane	U	μg	/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
23. 1,2-Dichlorobenzene	U	μg	/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
24.1,3-Dichlorobenzene	U	μg	/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
25. 1,4-Dichlorobenzene	U	μg	/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
26. Dichlorodifluoromethane	U	μg	/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
27. 1,1-Dichloroethane	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
28. 1,2-Dichloroethane	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
29. 1,1-Dichloroethene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
30. cis-1,2-Dichloroethene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
31. trans-1,2-Dichloroethene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
32.1,2-Dichloropropane	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
33. cis-1,3-Dichloropropene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
34. trans-1,3-Dichloropropene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
35. Ethylbenzene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
36. Ethylene Dibromide	U	μg	/kg	20	1.0	05/18/11	V911E18B	05/19/11	V911E18B
37. 2-Hexanone	U	μg	/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
38. Isopropylbenzene	U	μg	/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
39. Methyl lodide	U	μg	/kg	110	1.0	05/18/11	V911E18B	05/19/11	V911E18B
40. Methylene Chloride	U	μg	/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
41. 4-Methyl-2-pentanone	U	μg	/kg	2500	1.0	05/18/11	V911E18B	05/19/11	V911E18B
42 MTBE	U	μg	/kg	250	1.0	05/18/11	V911E18B	05/19/11	V911E18B
43. Naphthalene	U	μg	/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
44. n-Propylbenzene	U	μg	/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
45. Styrene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
46. 1,1,1,2-Tetrachloroethane	U	μg	/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
47. 1,1,2,2-Tetrachloroethane	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
48. Tetrachloroethene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
49. Toluene	U	μg	/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
50. 1,2,4-Trichlorobenzene	U	μg	/kg	330	1.0	05/18/11	V911E18B	05/19/11	V911E18B
51.1,1,1-Trichloroethane	U		/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
52 1,1,2-Trichloroethane	U		/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
53. Trichloroethene	U		/kg	50	1.0	05/18/11	V911E18B	05/19/11	V911E18B
54. Trichlorofluoromethane	U		/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
55. 1,2,3-Trichloropropane	U		/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
56. 1,2,3-Trimethylbenzene (NN)	U		/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
57. 1,2,4-Trimethylbenzene	U		/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
58. 1,3,5-Trimethylbenzene	U		/kg	100	1.0	05/18/11	V911E18B	05/19/11	V911E18B
59. Vinyl Chloride	U		/kg	40	1.0	05/18/11	V911E18B	05/19/11	V911E18B

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Soil/Solid

Order: 44583 14 of 31 Page: Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB10-S1 Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

6 Sample No:

Collect Date: Collect Time: 05/16/11 12:00

Client Project No: Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GO	C/MS, 5035 (E	EPA 50	35/EPA 826	0B) AI	iquot ID: 44	583-006	Matrix: Soi	l/Solid	Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
60. Xylenes	U		μg/kg	150	1.0	05/18/11	V911E18B	05/19/11	V911E18B

Polynuclear Aromatic Hydrocarbons (PN	NAs) (EPA 35500	/EPA	8270C)	AI	iquot ID: 44	583-006A	Matrix: Soil/Solid A		nalyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
2 Acenaphthylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
3. Anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
4. Benzo(a)anthracene (SIM)	U		μg/kg	590	40	05/20/11	PS11E20B	05/21/11	S711E21A
5. Benzo(a)pyrene (SIM)	U		μg/kg	590	40	05/20/11	PS11E20B	05/21/11	S711E21A
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
9. Chrysene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
11. Fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
12 Fluorene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	590	40	05/20/11	PS11E20B	05/21/11	S711E21A
14. 2-Methylnaphthalene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
15. Phenanthrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
16. Pyrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A

Cyanide, Total (CLP ISM01.2/EPA 9014)		otal (CLP ISM01.2/EPA 9014)				Aliquot ID: 44583-006A			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Cyanide	U		μg/kg	200	1.0	05/18/11	PW11E18B	05/18/11	WP11E18B

Inorganio	Anions by IC (EPA 0300.0/EPA 9050	6)			Aliquot ID: 44583-006A				Matrix: Soil/Solid Analyst: C		
Paramete	r(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch	
1. Sulfat	9	U		μg/kg	10000	1.0	05/19/11 15:02	PW11E19D	05/20/11 18:25	WC11E16A	



Order: 44583 15 of 31 Page: Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB11-S1 Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

8 Sample No:

Collect Date:

05/16/11

Client Project No:

PE54232D-06

Soil/Solid

Collect Time:

11:00

Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report)

NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)	Dry Weight Determination (ASTM D 2974-87)			AI	583-008A	Matrix: Soil/Solid A		Analyst: BMG	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	12		%	0.1	1.0	05/18/11	MC110518	05/19/11	MC110518

Michigan 10 Elements by ICP/MS (EPA 020	gan 10 Elements by ICP/MS (EPA 0200.2-M/EPA 6020A)				Aliquot ID: 44583-008A			Matrix: Soil/Solid A	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	3900		μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
2 Barium	25000		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
3. Cadmium	260		μg/kg	50	20	05/20/11	PT11E20A	05/20/11	T211E20A
4. Chromium	7600		μg/kg	500	20	05/20/11	PT11E20A	05/20/11	T211E20A
5. Copper	8700		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
6. Lead	20000		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
7. Selenium	U		μg/kg	200	20	05/20/11	PT11E20A	05/20/11	T211E20A
8. Silver	U		μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
9. Zinc	70000		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A

Chromium, Hexavalent (EPA 3060A/EPA 7196	hromium, Hexavalent (EPA 3060A/EPA 7196A)						Matrix: Soil/Solid A		Analyst: LRW
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chromium VI	U		μg/kg	2800	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A

Mercury by CVAAS (EPA 7471B)	Mercury by CVAAS (EPA 7471B)						Matrix: Soil	/Solid	Analyst: MAP
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Mercury	U		μg/kg	50	10	05/19/11	PM11E19D	05/20/11	M411E20B

Organochlorine Pesticides (EPA 35	50C/EPA 8081B)			AI	iquot ID: 44	583-008A	Matrix: Soil/Solid		nalyst: GAN
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
2 alpha-BHC (NN)	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
3. beta-BHC (NN)	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
4. delta-BHC	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
5. gamma-BHC (NN)	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
6. Chlordane (NN)	U		μg/kg	28	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
7. 4,4'-DDD	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
8. 4,4'-DDE	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
9. 4,4'-DDT	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
10. Dieldrin	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
11. Endosulfan I	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
12 Endosulfan II	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
13. Endosulfan Sulfate	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A

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Soil/Solid

Order: 44583 16 of 31 Page: Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB11-S1 Chain of Custody:

Collect Date:

108257 05/16/11

11:00

Client Project Name:

26500 Northwestern Highway

8 Sample No:

Collect Time:

Client Project No: Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 35	550C/EPA 8081B)		Al	Aliquot ID: 44583-008A			Matrix: Soil/Solid		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
14. Endrin	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
15. Endrin Aldehyde	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
16. Heptachlor	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
17. Heptachlor Epoxide	U		μg/kg	23	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
18. Methoxychlor	U		μg/kg	57	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
19. Toxaphene (NN)	U		μg/kg	190	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A

Organochlorine Herbicides (EPA	3550C/EPA 8151A)			Aliquot ID: 44583-008A			Matrix: Soi	nalyst: TMC	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U		μg/kg	230	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
2 Dalapon	U		μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
3.2,4-DB	U		μg/kg	230	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
4. Dicamba	U		μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
5. Dichlorprop (NN)	U		μg/kg	230	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
6. Dinoseb (NN)	U		μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
7. 2,4,5-T	U		μg/kg	230	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
8.2,4,5-TP (NN)	U		μg/kg	230	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B

Volatile Organic Compounds (VOCs) k	y GC/MS, 5035 (E	PA 503	85/EPA 826	OB) AI	iquot ID: 44	583-008	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/19/11	V911E19A	05/19/11	V911E19A
2. Acrylonitrile	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
3. Benzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
4. Bromobenzene	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
5. Bromochloromethane	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
6. Bromodichloromethane	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
7. Bromoform	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
8. Bromomethane	U		μg/kg	200	1.0	05/19/11	V911E19A	05/19/11	V911E19A
9. 2-Butanone	U		μg/kg	750	1.0	05/19/11	V911E19A	05/19/11	V911E19A
10. n-Butylbenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
13. Carbon Disulfide	U		μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
14. Carbon Tetrachloride	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
15. Chlorobenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
16. Chloroethane	U		μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
17. Chloroform	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
18. Chloromethane	U		μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
19. 2-Chlorotoluene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A

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Order: 44583 Page: 17 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB11-S1 Chain of Custody:

Collect Date:

108257 05/16/11

11:00

Client Project Name:

26500 Northwestern Highway

8 Sample No:

Soil/Solid

Collect Time:

Client Project No: Sample Comments:

Sample Matrix: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/	/MS, 5035 (E	PA 5035/EPA 82	60B) A	liquot ID: 44	1583-008	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
20. Dibromochloromethane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/kg	11	1.0	05/19/11	V911E19A	05/19/11	V911E19A
22 Dibromomethane	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
23. 1,2-Dichlorobenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
24. 1,3-Dichlorobenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
25. 1,4-Dichlorobenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
26. Dichlorodifluoromethane	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
27.1,1-Dichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
28.1,2-Dichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
29. 1,1-Dichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
30. cis-1,2-Dichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
31. trans-1,2-Dichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
32.1,2-Dichloropropane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
33. cis-1,3-Dichloropropene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
34. trans-1,3-Dichloropropene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
35. Ethylbenzene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
36. Ethylene Dibromide	U	μg/kg	20	1.0	05/19/11	V911E19A	05/19/11	V911E19A
37.2-Hexanone	U	μg/kg	2500	1.0	05/19/11	V911E19A	05/19/11	V911E19A
38. Isopropylbenzene	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
39. Methyl lodide	U	μg/kg	110	1.0	05/19/11	V911E19A	05/19/11	V911E19A
40. Methylene Chloride	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/19/11	V911E19A	05/19/11	V911E19A
42 MTBE	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
43. Naphthalene	U	μg/kg	330	1.0	05/19/11	V911E19A	05/19/11	V911E19A
44. n-Propylbenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
45. Styrene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
46. 1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
47. 1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
48. Tetrachloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
49. Toluene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
50. 1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/19/11	V911E19A	05/19/11	V911E19A
51. 1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
52.1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
53. Trichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
54. Trichlorofluoromethane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
55. 1,2,3-Trichloropropane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
56. 1,2,3-Trimethylbenzene (NN)	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
57. 1,2,4-Trimethylbenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
							0=110111	1/0445404
58. 1,3,5-Trimethylbenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A

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Order: 44583 Page: 18 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB11-S1

Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

Sample No: 8

Collect Date:

05/16/11

Client Project No:

PE54232D-06

Sample Matrix: Soil/Solid

Collect Time:

11:00

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/M	Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)						Matrix: Soil	Analyst: JAS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
60. Xylenes	U		μg/kg	150	1.0	05/19/11	V911E19A	05/19/11	V911E19A

Polynuclear Aromatic Hydrocarbons (Pi	NAs) (EPA 35500	EPA 8	3270C)	Al	iquot ID: 445	583-008A	Matrix: Soil	/Solid	Analyst: HLS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Acenaphthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
2 Acenaphthylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
3. Anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
4. Benzo(a)anthracene (SIM)	U		μg/kg	610	40	05/20/11	PS11E20B	05/21/11	S711E21A
5. Benzo(a)pyrene (SIM)	U		μg/kg	610	40	05/20/11	PS11E20B	05/21/11	S711E21A
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
9. Chrysene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
11. Fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
12 Fluorene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	610	40	05/20/11	PS11E20B	05/21/11	S711E21A
14. 2-Methylnaphthalene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
15. Phenanthrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
16. Pyrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A

Cyanide, Total (CLP ISM01.2/EPA 9014)	Cyanide, Total (CLP ISM01.2/EPA 9014)						Matrix: Soil/Solid Analyst: DM		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Cyanide	570		μg/kg	200	1.0	05/18/11	PW11E18B	05/18/11	WP11E18B

Inorganic Anions by IC (EPA 0300.0/EPA 9056)				Ali	583-008A	Matrix: Soil/Solid Analyst: CML		alyst: CML	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date A	Analysis Batch
1. Sulfate	15000		μg/kg	10000	1.0	05/19/11 15:02	PW11E19D	05/20/11 18:42	WC11E16A



Soil/Solid

Order: 44583 Page: 19 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: **DUP2-S** 

Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

Sample No: 9

Collect Date:

05/16/11

Client Project No:

PE54232D-06 Sample Matrix:

Collect Time:

NA

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87)				Al	iquot ID: 44	583-009A	Matrix: Soil	/Solid	Analyst: BMG
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Percent Moisture (Water Content) (NN)	10		%	0.1	1.0	05/18/11	MC110518	05/19/11	MC110518

Michigan 10 Elements by ICP/MS (EPA 02	higan 10 Elements by ICP/MS (EPA 0200.2-M/EPA 6020A)					583-009A	Matrix: Soil	/Solid A	nalyst: JLH
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	4000		μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
2 Barium	17000		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
3. Cadmium	180		μg/kg	50	20	05/20/11	PT11E20A	05/20/11	T211E20A
4. Chromium	6700		μg/kg	500	20	05/20/11	PT11E20A	05/20/11	T211E20A
5. Copper	7600		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A
6. Lead	270000		μg/kg	1000	200	05/20/11	PT11E20A	05/23/11	T211E23A
7. Selenium	200		μg/kg	200	20	05/20/11	PT11E20A	05/20/11	T211E20A
8. Silver	U		μg/kg	100	20	05/20/11	PT11E20A	05/20/11	T211E20A
9. Zinc	31000		μg/kg	1000	20	05/20/11	PT11E20A	05/20/11	T211E20A

Chromium, Hexavalent (EPA 3060A/EPA 7196	Chromium, Hexavalent (EPA 3060A/EPA 7196A)						Aliquot ID: 44583-009A Matrix: Soil/Solid			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch	
1. Chromium VI	U		μg/kg	2800	1.0	05/17/11	WF11E17A	05/18/11	WF11E17A	

Mercury by CVAAS (EPA 7471B)			Al	583-009A	Matrix: Soil/Solid Analyst: MAP			
Parameter(s)	Result (	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Mercury	U	μg/kg	50	10	05/19/11	PM11E19D	05/20/11	M411E20B

Organochlorine Pesticides (EPA 35	50C/EPA 8081B)			AI	iquot ID: 44	583-009A	Matrix: Soil	/Solid A	nalyst: GAN
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
2 alpha-BHC (NN)	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
3. beta-BHC (NN)	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
4. delta-BHC	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
5. gamma-BHC (NN)	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
6. Chlordane (NN)	U		μg/kg	28	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
7. 4,4'-DDD	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
8. 4,4'-DDE	39		μg/kg	22	1.0	05/19/11	PS11E19D	05/23/11	SA11E23A
9. 4,4'-DDT	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/23/11	SA11E23A
10. Dieldrin	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
11. Endosulfan I	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
12 Endosulfan II	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
13. Endosulfan Sulfate	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A

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Order: 44583 Page: 20 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: DUP2-S Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

9 Sample No:

Collect Date:

05/16/11

PE54232D-06

Sample Matrix: Soil/Solid Collect Time:

NA

Client Project No: Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides (EPA 35	ochlorine Pesticides (EPA 3550C/EPA 8081B)					83-009A	Matrix: Soil	/Solid	Analyst: GAN
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
14. Endrin	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
15. Endrin Aldehyde	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
16. Heptachlor	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
17. Heptachlor Epoxide	U		μg/kg	22	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
18. Methoxychlor	U		μg/kg	56	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A
19. Toxaphene (NN)	U		μg/kg	190	1.0	05/19/11	PS11E19D	05/20/11	SA11E20A

Organochlorine Herbicides (EPA	3550C/EPA 8151A)		Al	iquot ID: 44	583-009A	Matrix: Soi	/Solid A	Analyst: TMC
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
2 Dalapon	U	μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
3. 2,4-DB	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
4. Dicamba	U	μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
5. Dichlorprop (NN)	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
6. Dinoseb (NN)	U	μg/kg	110	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
7. 2,4,5-T	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B
8.2,4,5-TP (NN)	U	μg/kg	220	1.0	05/19/11	PS11E19E	05/20/11	SC11E19B

Volatile Organic Compounds (VOCs) k	y GC/MS, 5035 (E	PA 503	85/EPA 826	OB) AI	iquot ID: 44	583-009	Matrix: Soil	/Solid A	nalyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/kg	1000	1.0	05/19/11	V911E19A	05/19/11	V911E19A
2. Acrylonitrile	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
3. Benzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
4. Bromobenzene	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
5. Bromochloromethane	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
6. Bromodichloromethane	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
7. Bromoform	U		μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
8. Bromomethane	U		μg/kg	200	1.0	05/19/11	V911E19A	05/19/11	V911E19A
9. 2-Butanone	U		μg/kg	750	1.0	05/19/11	V911E19A	05/19/11	V911E19A
10. n-Butylbenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
11. sec-Butylbenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
12 tert-Butylbenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
13. Carbon Disulfide	U		μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
14. Carbon Tetrachloride	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
15. Chlorobenzene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
16. Chloroethane	U		μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
17. Chloroform	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
18. Chloromethane	U		μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
19. 2-Chlorotoluene	U		μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A

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9

Order: 44583 Page: 21 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: DUP2-S Chain of Custody:

108257

Client Project Name: 26500 Northwestern Highway Sample No:

Collect Date:

05/16/11

Client Project No: PE54232D-06 Sample Matrix: Soil/Solid Collect Time:

NA

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Parametri(s)	Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)			i0B) Al	iquot ID: 44	583-009	Matrix: Soil	/Solid A	nalyst: JAS
2.1.2-Dibromo-3-chloropropane (NN)   U   μp/kg   11   1.0   0.51911   V911E19A   0.51911   V911E19A   2.2 Dibromo-dehane   U   μp/kg   250   1.0   0.51911   V911E19A   0.51911   V911E19A   2.2 Dibromo-dehane   U   μp/kg   100   1.0   0.51911   V911E19A   0.51911   V911E19A   2.2 1.3-Dibroboropame   U   μp/kg   100   1.0   0.51911   V911E19A   0.51911   V911E19A   2.2 1.3-Dibroboropame   U   μp/kg   100   1.0   0.51911   V911E19A   0.51911   V911E19A   2.2 1.3-Dibroboropame   U   μp/kg   2.50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.2 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.2 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   50   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   2.500   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   2.500   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   2.500   1.0   0.51911   V911E19A   0.51911   V911E19A   2.3 1.3-Dibroboropame   U   μp/kg   3.0   0.51911   V911E19A   0.51911   V911E19A   4.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1	Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
22 Dibromomethane	20. Dibromochloromethane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
23.1,2-Dichlorobenzene	21. 1,2-Dibromo-3-chloropropane (NN)	U	μg/kg	11	1.0	05/19/11	V911E19A	05/19/11	V911E19A
24.1.3-Dichlorobenzene	22 Dibromomethane	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
25.1.4-Dichlorobenzene	23. 1,2-Dichlorobenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
26 Dichlorodifluoromethane         U         µg/kg         250         1.0         05/19/11         V911E19A         05/19/11         V911E19A           27.1.1-Dichloroethane         U         µg/kg         50         1.0         05/19/11         V911E19A         05/19/11         V911E19A <td>24. 1,3-Dichlorobenzene</td> <td>U</td> <td>μg/kg</td> <td>100</td> <td>1.0</td> <td>05/19/11</td> <td>V911E19A</td> <td>05/19/11</td> <td>V911E19A</td>	24. 1,3-Dichlorobenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
27.1.1-Dichloroethane	25. 1,4-Dichlorobenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
28.1,2-Dichloroethane         U         µg/kg         50         1.0         05/19/11         V911E19A         05/19/11         V911E19A           28.1,1-Dichloroethene         U         µg/kg         50         1.0         05/19/11         V911E19A	26. Dichlorodifluoromethane	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
29.1,1-Dichloroethene         U         μg/kg         50         1.0         05/19/11         V91/E19A         05/19/11         V91/E19A           30. dis-1,2-Dichloroethene         U         μg/kg         50         1.0         05/19/11         V91/E19A         05/19/11         V91/E19A <td>27.1,1-Dichloroethane</td> <td>U</td> <td>μg/kg</td> <td>50</td> <td>1.0</td> <td>05/19/11</td> <td>V911E19A</td> <td>05/19/11</td> <td>V911E19A</td>	27.1,1-Dichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
30. cis-1,2-Dichloroethene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 31. trans-1,2-Dichloroethene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 32.1,2-Dichloropropene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 33. cis-1,3-Dichloropropene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 34. trans-1,3-Dichloropropene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 35. Ethylenezhee U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 36. Ethylene Dibromide U μg/kg 20 1.0 05/19/11 V911E19A 05/19/11 V911E19A 37. 2-Hexanone U μg/kg 20 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38. Espropylbenzene U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38. Sepropylbenzene U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 39. Methyl lodide U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40. Methylene Chloride U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 41.4-Methyl-2-pentanone U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42. MTBE U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43. Naphthalene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44. n-Propylbenzene U μg/kg 300 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U μg/kg 300 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 1,2,4-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 1,2,4-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 1,2,4-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trinchlybenzene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V91	28. 1,2-Dichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
31. trans-1,2-Dichloroethene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 32 1,2-Dichloropropane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 34 trans-1,3-Dichloropropene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 34 trans-1,3-Dichloropropene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 35 Ethylbenzene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 36 Ethylsene Dibromide U μg/kg 20 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38 Esthylsene U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38 Esthylsene U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38 Esthylsene U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38 Esthylsene U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 39 Methyl lodide U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40 Methylsene Chloride U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40 Methylsene Chloride U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42 MTBE U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43 Naphthalene U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43 Naphthalene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44 n-Propylbenzene U μg/kg 30 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45 Styrene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46 1,1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46 1,1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47 1,1,2-Z-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48 Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Tinchloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Tinchloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Tinchloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Tinchloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Tinchloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Tinchloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,2,1-Tinc	29.1,1-Dichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
32.1,2-Dichloropropane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 33.0is-1,3-Dichloropropene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 34.trans-1,3-Dichloropropene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 35.Ethylbenzene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 36.Ethylene Dibromide U μg/kg 20 1.0 05/19/11 V911E19A 05/19/11 V911E19A 37.2-Hexanone U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38.Isopropylbenzene U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 39.Methyl lodide U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40.Methylene Chloride U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40.Methylene Chloride U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 41.4-Methyl-2-pentanone U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42.MTBE U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43. Naphthalene U μg/kg 3300 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44.N-Propylbenzene U μg/kg 3300 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U μg/kg 300 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46. 1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46.1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46.1,1,1-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,1,2-Tetrachloro	30. cis-1,2-Dichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
33 cis-1,3-Dichloropropene   U	31. trans-1,2-Dichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
34 trans-1,3-Dichloropropene   U	32.1,2-Dichloropropane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
35. Ethylbenzene U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 36. Ethylene Dibromide U µg/kg 20 1.0 05/19/11 V911E19A 05/19/11 V911E19A 37.2-Hexanone U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38. Isopropylbenzene U µg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38. Isopropylbenzene U µg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40. Methylene Chloride U µg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40. Methylene Chloride U µg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42. MTBE U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42. MTBE U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43. Naphthalene U µg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44. n-Propylbenzene U µg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U µg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U µg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46. 1,1,1,2-Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46. 1,1,1,2-Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 13/11 V911E19A 50. 1	33. cis-1,3-Dichloropropene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
36 Ethylene Dibromide U µg/kg 20 1.0 05/19/11 V911E19A 05/19/11 V911E19A 37.2-Hexanone U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38 Isopropylbenzene U µg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40.00 Methyl lodide U µg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40.00 Methylene Chloride U µg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40.00 Methylene Chloride U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 41.4-Methyl-2-pentanone U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42.00 Methylene Chloride U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43.Naphthalene U µg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43.Naphthalene U µg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44.n-Propylbenzene U µg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45.Styrene U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46.1,1,1,2-Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45.1,1,1,2-Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48.Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48.Tetrachloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49.Toluene U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50.1,2,2-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50.1,2,2-Trichloroethane U µg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 52.1,1,2-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,2-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,2-Trichloroethane U µg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V9	34. trans-1,3-Dichloropropene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
37. 2-Hexanone  U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 38. Isopropylbenzene  U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 39. Methyl lodicle  U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40. Methylene Chloride  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 41. 4-Methyl-2-pentanone  U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42. MTBE  U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43. Naphthalene  U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44. n-Propylbenzene  U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46. 1.1, 1.2-Tetrachloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47. 1.1, 2.2-Tetrachloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethene  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Tolloene  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Tolloene  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 1, 2, 4-Trichlorobenzene  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1, 1, 1-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1, 1, 1-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1, 1, 1-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1, 1, 1-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1, 1, 1-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1, 1, 1-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1, 1, 2-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1, 1, 2-Trichloroethane  U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1, 2, 3-Trinhoropropane  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1, 2, 3-Trinhoropropane  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1, 2, 3-Trinhoropropane  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1, 2, 3-Trinhoropropane  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11	35. Ethylbenzene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
38 Isopropylbenzene  U µg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 39. Methyl lodide U µg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40. Methylene Chloride U µg/kg 250 1.0 05/19/11 V911E19A	36. Ethylene Dibromide	U	μg/kg	20	1.0	05/19/11	V911E19A	05/19/11	V911E19A
39. Methyl lodide U μg/kg 110 1.0 05/19/11 V911E19A 05/19/11 V911E19A 40. Methylene Chloride U μg/kg 2500 1.0 05/19/11 V911E19A 05/19/11 V911E19A 41.4-Methyl-2-pentanone U μg/kg 250 1.0 05/19/11 V911E19A 05/19/11 V911E19A 42. MTBE U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 43. Naphthalene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44. n-Propylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46. 1,1,1,2-Tetrachloroethane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 1,2,4-Trichloroethane U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trichloropopane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trichloropopane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 56. 1,2,3-Trichloropopane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 56. 1,2,3-Trichloropopane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 56. 1,2,3-Trichloropopane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	37. 2-Hexanone	U	μg/kg	2500	1.0	05/19/11	V911E19A	05/19/11	V911E19A
40. Methylene Chloride	38. Isopropylbenzene	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
41.4-Methyl-2-pentanone       U       µg/kg       2500       1.0       05/19/11       V911E19A       05/19/11       V911E19A         42 MTBE       U       µg/kg       250       1.0       05/19/11       V911E19A       05/19/11       V911E19A         43. Naphthalene       U       µg/kg       330       1.0       05/19/11       V911E19A       05/19/11       V911E19A         44. n-Propylbenzene       U       µg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         45. Styrene       U       µg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         46. 1,1,2-Tetrachloroethane       U       µg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         47. 1,1,2-Tetrachloroethane       U       µg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         48. Tetrachloroethane       U       µg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         49. Toluene       U       µg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A	39. Methyl lodide	U	μg/kg	110	1.0	05/19/11	V911E19A	05/19/11	V911E19A
42 MTBE  U μg/kg  330  1.0  05/19/11  V911E19A  05/19/11  V911E19A  43. Naphthalene  U μg/kg  330  1.0  05/19/11  V911E19A  05/19/11  V911E19A  05/19/11  V911E19A  44. n-Propylbenzene  U μg/kg  100  1.0  05/19/11  V911E19A  0	40. Methylene Chloride	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
43. Naphthalene U µg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 44. n-Propylbenzene U µg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 05/19/11 V911E19A 45. Styrene U µg/kg 50 1.0 05/19/11 V911E19A 05/19/1	41. 4-Methyl-2-pentanone	U	μg/kg	2500	1.0	05/19/11	V911E19A	05/19/11	V911E19A
44. n-Propylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         45. Styrene       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         46. 1,1,1,2-Tetrachloroethane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         47. 1,1,2-Tetrachloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         48. Tetrachloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         49. Toluene       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         50. 1,2,4-Trichlorobenzene       U       μg/kg       330       1.0       05/19/11       V911E19A       05/19/11       V911E19A         51. 1,1,1-Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         52. 1,2,2-Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E1	42 MTBE	U	μg/kg	250	1.0	05/19/11	V911E19A	05/19/11	V911E19A
45. Styrene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 46. 1,1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47. 1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V9	43. Naphthalene	U	μg/kg	330	1.0	05/19/11	V911E19A	05/19/11	V911E19A
46.1,1,1,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 47.1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50.1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1,1-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 52.1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 52.1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 53. Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 54. Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trichloropropane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trichloropropane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trimethylbenzene (NN) U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 57. 1,2,4-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 58. 1,3,5-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	44. n-Propylbenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
47. 1,1,2,2-Tetrachloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 48. Tetrachloroethene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 52. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 53. Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 53. Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 54. Trichlorofluoromethane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trichloropropane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trimethylbenzene (NN) U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,4-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,4-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	45. Styrene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
48. Tetrachloroethene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50. 1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51. 1,1,1-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 52. 1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 53. Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 53. Trichloroethene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trichlorofluoromethane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55. 1,2,3-Trichloropropane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 56. 1,2,3-Trimethylbenzene (NN) U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 57. 1,2,4-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 58. 1,3,5-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	46. 1,1,1,2-Tetrachloroethane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
49. Toluene U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 50.1,2,4-Trichlorobenzene U μg/kg 330 1.0 05/19/11 V911E19A 05/19/11 V911E19A 51.1,1-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 52.1,1,2-Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 53. Trichloroethane U μg/kg 50 1.0 05/19/11 V911E19A 05/19/11 V911E19A 54. Trichlorofluoromethane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,2,3-Trichloropropane U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 56.1,2,3-Trimethylbenzene (NN) U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,2,4-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,2,4-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,3,5-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 55.1,3,5-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	47. 1,1,2,2-Tetrachloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
50.1,2,4-Trichlorobenzene       U       μg/kg       330       1.0       05/19/11       V911E19A       05/19/11       V911E19A         51.1,1,1-Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         52.1,1,2-Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         53. Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         54. Trichlorofluoromethane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         55. 1,2,3-Trichloropropane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         56. 1,2,3-Trimethylbenzene (NN)       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         58. 1,3,5-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A	48. Tetrachloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
51.1,1,1-Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         52.1,1,2-Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         53. Trichloroethene       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         54. Trichlorofluoromethane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         55. 1,2,3-Trichloropropane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         56. 1,2,3-Trimethylbenzene (NN)       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         57. 1,2,4-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         58. 1,3,5-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A	49. Toluene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
52 1,1,2-Trichloroethane       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         53 Trichloroethene       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         54 Trichlorofluoromethane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         55 1,2,3-Trichloropropane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         56 1,2,3-Trimethylbenzene (NN)       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         57.1,2,4-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         58.1,3,5-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A	50.1,2,4-Trichlorobenzene	U	μg/kg	330	1.0	05/19/11	V911E19A	05/19/11	V911E19A
53. Trichloroethene       U       μg/kg       50       1.0       05/19/11       V911E19A       05/19/11       V911E19A         54. Trichlorofluoromethane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         55. 1,2,3-Trichloropropane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         56. 1,2,3-Trimethylbenzene (NN)       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         57. 1,2,4-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         58. 1,3,5-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A	51.1,1,1-Trichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
54. Trichlorofluoromethane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         55. 1,2,3-Trichloropropane       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         56. 1,2,3-Trimethylbenzene (NN)       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         57. 1,2,4-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         58. 1,3,5-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A	52.1,1,2-Trichloroethane	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
55. 1,2,3-Trichloropropane  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A  56. 1,2,3-Trimethylbenzene (NN)  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A  57. 1,2,4-Trimethylbenzene  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A  58. 1,3,5-Trimethylbenzene  U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	53. Trichloroethene	U	μg/kg	50	1.0	05/19/11	V911E19A	05/19/11	V911E19A
56.1,2,3-Trimethylbenzene (NN)       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         57.1,2,4-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A         58.1,3,5-Trimethylbenzene       U       μg/kg       100       1.0       05/19/11       V911E19A       05/19/11       V911E19A	54. Trichlorofluoromethane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
57. 1,2,4-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A 58. 1,3,5-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	55. 1,2,3-Trichloropropane	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
58.1,3,5-Trimethylbenzene U μg/kg 100 1.0 05/19/11 V911E19A 05/19/11 V911E19A	56. 1,2,3-Trimethylbenzene (NN)	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
100	57. 1,2,4-Trimethylbenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
$59. Vinyl \ Chloride \qquad \qquad U \qquad \mu g/kg \qquad \qquad 40 \qquad 1.0 \qquad 05/19/11 \qquad V911E19A \qquad 05/19/11 \qquad V911E19A$	58.1,3,5-Trimethylbenzene	U	μg/kg	100	1.0	05/19/11	V911E19A	05/19/11	V911E19A
	59. Vinyl Chloride	U	μg/kg	40	1.0	05/19/11	V911E19A	05/19/11	V911E19A

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601

T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



Order: 44583 Page: 22 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: DUP2-S

Chain of Custody:

108257

Client Project Name:

26500 Northwestern Highway

Sample No: 9

Collect Date:
Collect Time:

05/16/11

NA

Client Project No:

Sample Comments:

Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Sample Matrix:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)					iquot ID: 44	583-009	Matrix: Soil	Matrix: Soil/Solid Analyst: JAS				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch			
60. Xvlenes	U		ua/ka	150	1.0	05/19/11	V911E19A	05/19/11	V911E19A			

Soil/Solid

Polynuclear Aromatic Hydrocarbons (Pl	270C)	Al	iquot ID: 44	583-009A	Matrix: Soil/Solid A		Analyst: HLS		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Acenaphthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
2 Acenaphthylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
3. Anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
4. Benzo(a)anthracene (SIM)	U		μg/kg	590	40	05/20/11	PS11E20B	05/21/11	S711E21A
5. Benzo(a)pyrene (SIM)	U		μg/kg	590	40	05/20/11	PS11E20B	05/21/11	S711E21A
6. Benzo(b)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
7. Benzo(ghi)perylene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
8. Benzo(k)fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
9. Chrysene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
10. Dibenzo(a,h)anthracene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
11. Fluoranthene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
12 Fluorene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/kg	590	40	05/20/11	PS11E20B	05/21/11	S711E21A
14. 2-Methylnaphthalene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
15. Phenanthrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A
16. Pyrene (SIM)	U		μg/kg	330	40	05/20/11	PS11E20B	05/21/11	S711E21A

Cyanide, Total (CLP ISM01.2/EPA 9014)		Al	iquot ID: 44	583-009A	Matrix: Soil/Solid Analyst: DM				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Cyanide	U		μg/kg	200	1.0	05/18/11	PW11E18B	05/18/11	WP11E18B

ı	norganic Anions by IC (EPA 0300.0/EPA 9056)	1			Aliquot ID: 44583-009A				Matrix: Soil/Solid Analyst:		
ı	Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch	
	1. Sulfate	11000		μg/kg	10000	1.0	05/19/11 15:02	PW11E19D	05/20/11 18:59	WC11E16A	



**Ground Water** 

Order: 44583 Page: 23 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: SB10-GW

Chain of Custody:

Collect Date:

108258 05/16/11

Client Project Name:
Client Project No:

26500 Northwestern Highway

Sample No: 12

Collect Time: 12:30

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Michigan 10 Elements by ICP/MS	higan 10 Elements by ICP/MS, Total Recoverable (EPA 3005A-M/EPA 602					583-012A	Matrix: Ground Water Analyst: JLH		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	U		μg/L	5.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
2 Barium	210		μg/L	100	10	05/18/11	PT11E18C	05/19/11	T211E19A
3. Cadmium	U		μg/L	1.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
4. Chromium	U		μg/L	10	10	05/18/11	PT11E18C	05/19/11	T211E19A
5. Copper	U		μg/L	4.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
6. Lead	U		μg/L	3.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
7. Selenium	U		μg/L	5.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
8. Silver	U		μg/L	0.20	10	05/18/11	PT11E18C	05/19/11	T211E19A
9. Zinc	U		μg/L	50	10	05/18/11	PT11E18C	05/19/11	T211E19A

Chromium, Hexavalent, Dissolved (EPA 7196A	<b>A)</b>			Aliquot ID: 44583-012D Matrix: Ground Wate					Analyst: DMS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
1. Chromium VI	U		μg/L	5.0	1.0	NA	NA	05/17/11 12:0	6 WF11E17A

Mercury by CVAAS, Total (EPA 7470A)				Aliquot ID: 44583-012A Matrix: Ground Wate					Analyst: MAP
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. Mercury	U		μg/L	0.20	1.0	05/19/11	PM11E19B	05/20/11	M411E20A

Organochlorine Pesticides (EPA 3535A/EP	ganochlorine Pesticides (EPA 3535A/EPA 8081B)					583-012C	Matrix: Ground Water Analyst: GAN		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
2 alpha-BHC (NN)	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
3. beta-BHC (NN)	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
4. delta-BHC	U	J,L-	μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
5. gamma-BHC (NN)	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
6. Chlordane (NN)	U		μg/L	0.050	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
7. 4,4'-DDD	U		μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
8. 4,4'-DDE	U		μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
9. 4,4'-DDT	U		μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
10. Dieldrin	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
11. Endosulfan I	U		μg/L	0.030	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
12 Endosulfan II	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
13. Endosulfan Sulfate	U	J,L-	μg/L	0.050	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
14. Endrin	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
15. Endrin Aldehyde	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
16. Heptachlor	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
17. Heptachlor Epoxide	U	J,L-	μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
18. Methoxychlor	U	J,L-	μg/L	0.50	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A

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SB10-GW

**Ground Water** 

Order: 44583 Page: 24 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

26500 Northwestern Highway Sample No: 12

108258 Chain of Custody:

Collect Date:

05/16/11

Client Project No: PE54232D-06

Sample Description:

Collect Time:

12:30

Sample Comments:

Client Project Name:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Organochlorine Pesticides (EPA 3535A/EPA	Organochlorine Pesticides (EPA 3535A/EPA 8081B)						Matrix: Ground Water Analyst: GAN		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
19. Toxaphene (NN)	U		μg/L	1.0	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A

Organochlorine Herbicides (EPA 8151A)		AI	iquot ID: 445	583-012C	Matrix: Ground Water Analyst: TMC				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U		μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
2 Dalapon	U		μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
3.2,4-DB	U		μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
4. Dicamba	U		μg/L	1.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
5. Dichlorprop (NN)	U		μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
6. Dinoseb (NN)	U		μg/L	5.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
7. 2,4,5-T	U		μg/L	1.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
8.2,4,5-TP (NN)	U		μg/L	1.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H

olatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)			Al	iquot ID: 44	583-012	Matrix: Ground Water		Analyst: JAS	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/L	50	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
2 Acrylonitrile	U		μg/L	2.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
3. Benzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
4. Bromobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
5. Bromochloromethane	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
6. Bromodichloromethane	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
7. Bromoform	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
8. Bromomethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
9. 2-Butanone	U		μg/L	25	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
10. n-Butylbenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
11. sec-Butylbenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
12 tert-Butylbenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
13. Carbon Disulfide	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
14. Carbon Tetrachloride	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
15. Chlorobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
16. Chloroethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
17. Chloroform	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
18. Chloromethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
19. 2-Chlorotoluene	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
20. Dibromochloromethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
22 Dibromomethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
23. 1,2-Dichlorobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
24.1,3-Dichlorobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A

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SB10-GW

**Ground Water** 

Order: 44583 25 of 31 Page: Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

26500 Northwestern Highway 12 Chain of Custody: 108258

Collect Date:

05/16/11

Client Project No: PE54232D-06 Sample No:

Sample Description:

Collect Time: 12:30

Sample Comments:

Client Project Name:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Sample Matrix:

Volatile Organic Compounds (VOCs) by GC/	latile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)			iquot ID: 44	583-012	Matrix: Ground Water		Analyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
25. 1,4-Dichlorobenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
26. Dichlorodifluoromethane	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
27.1,1-Dichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
28. 1,2-Dichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
29. 1,1-Dichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
30. cis-1,2-Dichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
31. trans-1,2-Dichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
32.1,2-Dichloropropane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
33. cis-1,3-Dichloropropene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
34. trans-1,3-Dichloropropene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
35. Ethylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
36. Ethylene Dibromide	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
37. 2-Hexanone	U	μg/L	50	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
38. Isopropylbenzene	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
39. Methyl lodide	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
40. Methylene Chloride	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
41. 4-Methyl-2-pentanone	U	μg/L	50	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
42 MTBE	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
43. Naphthalene	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
44. n-Propylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
45. Styrene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
46. 1,1,1,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
47. 1,1,2,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
48. Tetrachloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
49. Toluene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
50. 1,2,4-Trichlorobenzene	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
51. 1,1,1-Trichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
52.1,1,2-Trichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
53. Trichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
54. Trichlorofluoromethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
55. 1,2,3-Trichloropropane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
56.1,2,3-Trimethylbenzene (NN)	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
57.1,2,4-Trimethylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
58.1,3,5-Trimethylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
59. Vinyl Chloride	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
60. Xylenes	U	μg/L	3.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A

Polynuclear Aromatic Hydrocarbons (PNAs	8270C)	AI	Aliquot ID: 44583-012C Matrix: Ground Water						
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Acenaphthene (SIM)	U		μg/L	5.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A

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Order: 44583 Page: 26 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

Sample Description: SB10-GW

Chain of Custody:

108258

Client Project Name:

26500 Northwestern Highway

Sample No: 12

Collect Date:

05/16/11

Client Project No:

PE54232D-06

Sample Matrix: Ground Water

Collect Time:

12:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Parameter(s)  2 Acenaphthylene (SIM)  3 Anthracene (SIM)  4 Benzo(a)anthracene (SIM)  5 Benzo(a)pyrene (SIM)  6 Benzo(b)fluoranthene (SIM)  7 Benzo(ghi)perylene (SIM)  8 Benzo(k)fluoranthene (SIM)  9 Chrysene (SIM)  10 Dibenzo(a,h)anthracene (SIM)  11 Fluoranthene (SIM)	Result U U	Q	Units	D (1 11 11	·				
3. Anthracene (SIM) 4. Benzo(a)anthracene (SIM) 5. Benzo(a)pyrene (SIM) 6. Benzo(b)fluoranthene (SIM) 7. Benzo(ghi)perylene (SIM) 8. Benzo(k)fluoranthene (SIM) 9. Chrysene (SIM) 10. Dibenzo(a,h)anthracene (SIM) 11. Fluoranthene (SIM)				Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
4. Benzo(a)anthracene (SIM) 5. Benzo(a)pyrene (SIM) 6. Benzo(b)fluoranthene (SIM) 7. Benzo(ghi)perylene (SIM) 8. Benzo(k)fluoranthene (SIM) 9. Chrysene (SIM) 10. Dibenzo(a,h)anthracene (SIM) 11. Fluoranthene (SIM)	- 11		μg/L	5.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
5. Benzo(a)pyrene (SIM) 6. Benzo(b)fluoranthene (SIM) 7. Benzo(ghi)perylene (SIM) 8. Benzo(k)fluoranthene (SIM) 9. Chrysene (SIM) 10. Dibenzo(a,h)anthracene (SIM) 11. Fluoranthene (SIM)	U		μg/L	5.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
6. Benzo(b)fluoranthene (SIM)  7. Benzo(ghi)perylene (SIM)  8. Benzo(k)fluoranthene (SIM)  9. Chrysene (SIM)  10. Dibenzo(a,h)anthracene (SIM)  11. Fluoranthene (SIM)	U		μg/L	1.1	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
7. Benzo(ghi)perylene (SIM) 8. Benzo(k)fluoranthene (SIM) 9. Chrysene (SIM) 10. Dibenzo(a,h)anthracene (SIM) 11. Fluoranthene (SIM)	U		μg/L	1.1	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
8. Benzo(k)fluoranthene (SIM) 9. Chrysene (SIM) 10. Dibenzo(a,h)anthracene (SIM) 11. Fluoranthene (SIM)	U		μg/L	1.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
9. Chrysene (SIM)  10. Dibenzo(a,h)anthracene (SIM)  11. Fluoranthene (SIM)	U		μg/L	1.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
10. Dibenzo(a,h)anthracene (SIM) 11. Fluoranthene (SIM)	U		μg/L	1.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
11. Fluoranthene (SIM)	U		μg/L	1.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
,	U		μg/L	2.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
12 Fluorene (SIM)	U		μg/L	1.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
	U		μg/L	5.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		μg/L	2.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
14. 2-Methylnaphthalene (SIM)	U		μg/L	5.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
15. Phenanthrene (SIM)	U		μg/L	2.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
16. Pyrene (SIM)	U		μg/L	5.0	5.3	05/19/11	PS11E19I	05/20/11	S711E20A
Cyanide, Total (EPA 9010C/EPA 9014)				Al	iquot ID: 44	583-012B	Matrix: Gro	und Water A	nalyst: DMS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Cyanide	U		μg/L	5.0	1.0	05/18/11	PW11E18A	05/18/11	WP11E18A
Inorganic Anions by IC (EPA 9056)				AI	iquot ID: 44	583-012D	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Sulfate	180000		μg/L	2000	4.0	0E/10/11 1E:00	DW/11E10C	OE/24/11 12:45	WC11E24A

DCSID: G-610.13 (03/21/11)



DUP2-GW

**Ground Water** 

Order: 44583 Page: 27 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

26500 Northwestern Highway 14 Chain of Custody: 108258

05/16/11

Client Project No: PE54232D-06 Sample No:

Sample Description:

Sample Matrix:

Collect Date: Collect Time:

NA

Sample Comments:

Client Project Name:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS,	Total Recoverable (EP	A 3005A-I	M/EPA	A 6020A)	Al	iquot ID: 445	83-014A	Matrix: Gro	und Water A	nalyst: JLH
Parameter(s)	Result	Q	Units	Reporting Li	mit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Arsenic	U		μg/L	5	5.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
2 Barium	210		μg/L	1	00	10	05/18/11	PT11E18C	05/19/11	T211E19A
3. Cadmium	U		μg/L	1	1.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
4. Chromium	U		μg/L		10	10	05/18/11	PT11E18C	05/19/11	T211E19A
5. Copper	U		μg/L	4	1.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
6. Lead	U		μg/L	3	3.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
7. Selenium	U		μg/L	5	5.0	10	05/18/11	PT11E18C	05/19/11	T211E19A
8. Silver	U		μg/L	0.:	20	10	05/18/11	PT11E18C	05/19/11	T211E19A
9. Zinc	U		μg/L	;	50	10	05/18/11	PT11E18C	05/19/11	T211E19A

Chromium, Hexavalent, Dissolved (EPA 7196A)			Aliquot ID: 44583-014D Matrix: Gro			ound Water A	Analyst: DMS	
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chromium VI	U J,N1	μg/L	5.0	1.0	NA	NA	05/17/11 12:0	7 WF11E17A

Mercury by CVAAS, Total (EPA 7470A)			A	liquot ID: 44	583-014A	Matrix: Gro	und Water	Analyst: MAP
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Mercury	U	μg/L	0.20	1.0	05/19/11	PM11E19B	05/20/11	M411E20A

Organochlorine Pesticides (EPA 3535A/EPA	8081B)			Al	iquot ID: 445	583-014C	Matrix: Gro	und Water	Analyst: GAN
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Aldrin	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
2 alpha-BHC (NN)	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
3. beta-BHC (NN)	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
4. delta-BHC	U	J,L-	μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
5. gamma-BHC (NN)	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
6. Chlordane (NN)	U		μg/L	0.050	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
7. 4,4'-DDD	U		μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
8. 4,4'-DDE	U		μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
9. 4,4'-DDT	U		μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
10. Dieldrin	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
11. Endosulfan I	U		μg/L	0.030	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
12 Endosulfan II	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
13. Endosulfan Sulfate	U	J,L-	μg/L	0.050	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
14. Endrin	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
15. Endrin Aldehyde	U	J,L-	μg/L	0.020	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
16. Heptachlor	U		μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
17. Heptachlor Epoxide	U	J,L-	μg/L	0.010	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A
18. Methoxychlor	U	J,L-	μg/L	0.50	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A

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Order: 44583 Page: 28 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: DUP2-GW

Chain of Custody:

108258

Client Project Name: 2

26500 Northwestern Highway

Sample No: 14

Sample Matrix:

Collect Date:

05/16/11

Client Project No:

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Collect Time:

NA

Organochlorine Pesticides (EPA 35	Aliquot ID: 44583-014C			Matrix: Ground Water Analyst: GAN				
Parameter(s)	Result C	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
19. Toxaphene (NN)	U	ua/L	1.0	1.0	05/19/11	PS11E19G	05/19/11	SA11E19A

**Ground Water** 

Organochlorine Herbicides (EPA 8151A)			Al	iquot ID: 44	583-014C	Matrix: Gro	und Water A	nalyst: TMC
Parameter(s)	Result Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. 2,4-D	U	μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
2 Dalapon	U	μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
3.2,4-DB	U	μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
4. Dicamba	U	μg/L	1.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
5. Dichlorprop (NN)	U	μg/L	10	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
6. Dinoseb (NN)	U	μg/L	5.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
7. 2,4,5-T	U	μg/L	1.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H
8.2,4,5-TP (NN)	U	μg/L	1.0	1.0	05/19/11	PS11E10H	05/19/11	SC11E19H

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)				Al	iquot ID: 445	583-014	Matrix: Ground Water		Analyst: JAS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		μg/L	50	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
2 Acrylonitrile	U		μg/L	2.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
3. Benzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
4. Bromobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
5. Bromochloromethane	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
6. Bromodichloromethane	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
7. Bromoform	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
8. Bromomethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
9. 2-Butanone	U		μg/L	25	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
10. n-Butylbenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
11. sec-Butylbenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
12 tert-Butylbenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
13. Carbon Disulfide	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
14. Carbon Tetrachloride	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
15. Chlorobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
16. Chloroethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
17. Chloroform	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
18. Chloromethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
19. 2-Chlorotoluene	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
20. Dibromochloromethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
21. 1,2-Dibromo-3-chloropropane (NN)	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
22 Dibromomethane	U		μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
23. 1,2-Dichlorobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
24. 1,3-Dichlorobenzene	U		μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368



**Ground Water** 

Order: 44583 Page: 29 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: **DUP2-GW** 

Chain of Custody:

108258

Client Project Name: 26500

26500 Northwestern Highway

Sample No: 14

Sample Matrix:

Collect Date:
Collect Time:

05/16/11

NA

Client Project No:

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC	/MS (EPA 50	30B/EPA 8260B)	Al	iquot ID: 44	583-014	Matrix: Gro	und Water	Analyst: JAS
Parameter(s)	Result	Q Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	e Analysis Batch
25. 1,4-Dichlorobenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
26. Dichlorodifluoromethane	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
27. 1,1-Dichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
28. 1,2-Dichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
29. 1,1-Dichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
30. cis-1,2-Dichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
31. trans-1,2-Dichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
32.1,2-Dichloropropane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
33. cis-1,3-Dichloropropene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
34. trans-1,3-Dichloropropene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
35. Ethylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
36. Ethylene Dibromide	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
37. 2-Hexanone	U	μg/L	50	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
38. Isopropylbenzene	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
39. Methyl lodide	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
40. Methylene Chloride	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
41. 4-Methyl-2-pentanone	U	μg/L	50	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
42 MTBE	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
43. Naphthalene	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
44. n-Propylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
45. Styrene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
46. 1,1,1,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
47. 1,1,2,2-Tetrachloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
48. Tetrachloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
49. Toluene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
50. 1,2,4-Trichlorobenzene	U	μg/L	5.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
51. 1,1,1-Trichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
52.1,1,2-Trichloroethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
53. Trichloroethene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
54. Trichlorofluoromethane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
55. 1,2,3-Trichloropropane	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
56. 1,2,3-Trimethylbenzene (NN)	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
57. 1,2,4-Trimethylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
58. 1,3,5-Trimethylbenzene	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
59. Vinyl Chloride	U	μg/L	1.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A
60. Xylenes	U	μg/L	3.0	1.0	05/19/11	VB11E19A	05/19/11	VB11E19A

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535A/EPA 8270C)				Aliquot ID: 44583-014C			Matrix: Ground Water Analyst: TMC		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Acenaphthene	U		μg/L	5.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368 F: (517) 699-0388 F: (810) 220-3311 F: (231) 775-8584



**Ground Water** 

Order: 44583 Page: 30 of 31 Date: 05/24/11

Client Identification: Soil and Materials Engineers,

Inc. - Shelby Twp.

PE54232D-06

Sample Description: DUP2-GW

Chain of Custody:

108258

Client Project Name:

26500 Northwestern Highway

Sample No: 14

Sample Matrix:

Collect Date:
Collect Time:

05/16/11 NA

Client Project No:

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNA	s) (EPA 3535 <i>i</i>	VEPA	8270C)	Al	iquot ID: 44	1583-014C	Matrix: Gro	und Water A	nalyst: TMC
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
2 Acenaphthylene	U		μg/L	5.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
3. Anthracene	U		μg/L	5.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
4. Benzo(a)anthracene	U		μg/L	1.1	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
5. Benzo(a)pyrene	U		μg/L	1.1	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
6. Benzo(b)fluoranthene	U		μg/L	1.1	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
7. Benzo(ghi)perylene	U		μg/L	1.1	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
8. Benzo(k)fluoranthene	U		μg/L	1.1	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
9. Chrysene	U		μg/L	1.1	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
10. Dibenzo(a,h)anthracene	U		μg/L	2.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
11. Fluoranthene	U		μg/L	1.1	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
12 Fluorene	U		μg/L	5.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
13. Indeno(1,2,3-cd)pyrene	U		μg/L	2.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
14. 2-Methylnaphthalene	U		μg/L	5.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
15. Phenanthrene	U		μg/L	2.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
16. Pyrene	U		μg/L	5.0	1.1	05/19/11	PS11E19I	05/20/11	S111E19B
Cyanide, Total (EPA 9010C/EPA 9014)				AI	iquot ID: 44	1583-014B	Matrix: Gro	und Water A	nalyst: DMS
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Cyanide	U		μg/L	5.0	1.0	05/18/11	PW11E18A	05/18/11	WP11E18A
Inorganic Anions by IC (EPA 9056)				Al	iquot ID: 44	1583-014D	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Sulfate	180000		μg/L	2000	4.0	05/19/11 15:02	PW11E19C	05/24/11 13:02	WC11E24A



#### Analytical Laboratory Report Laboratory Project Number: 44583

Order: 44583 Page: 31 of 31 Date: 05/24/11

#### **Definitions/ Qualifiers:**

- A: Spike recovery or precision unusable due to dilution.
- B: The analyte was detected in the associated method blank.
- E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J: The concentration is an estimated value.
- M: Modified Method
- **U:** The analyte was not detected at or above the reporting limit.
- X: Matrix Interference has resulted in a raised reporting limit or distorted result.
- W: Results reported on a wet-weight basis.
- \*: Value reported is outside QA limits

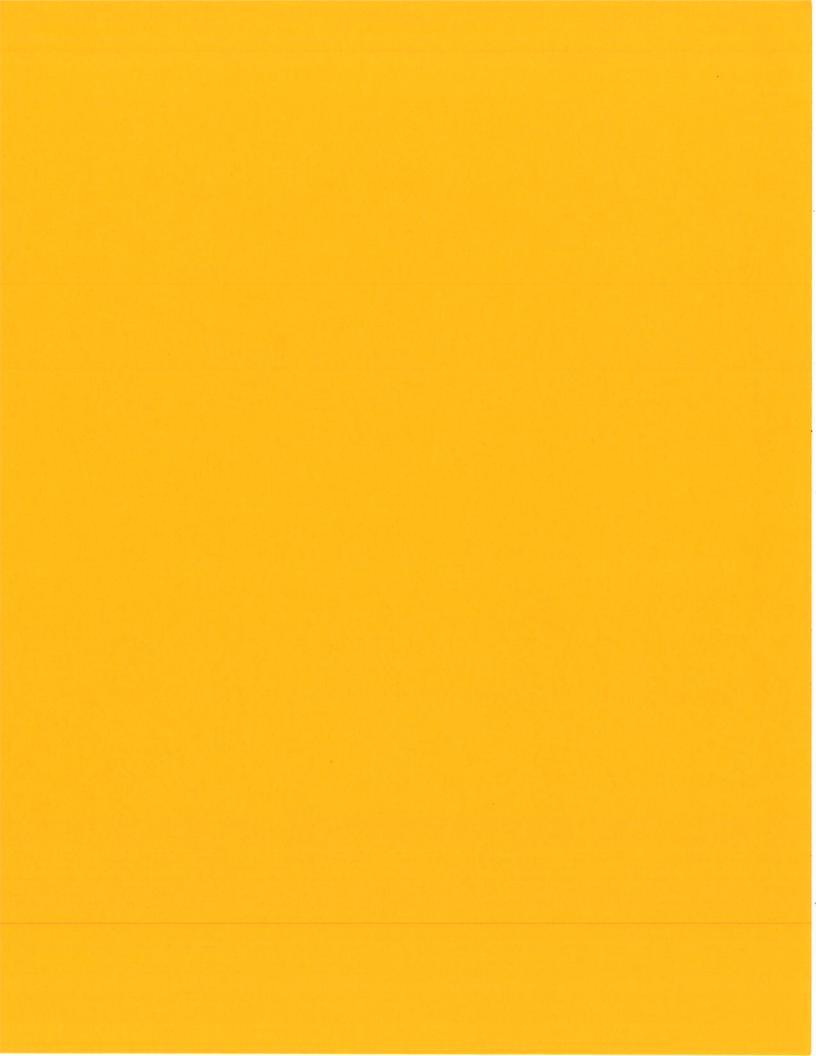
#### **Exception Summary:**

- : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.

N1 : Spiked sample recovery not within control limits.



E-10395





May 24, 2011

Case Narrative

Customer: SME

Project Identification: 26500 Northwestern Hwy/PE54232D-08

Fibertec Project Number: 44583

## Sample Collection/ Receipt

The following samples were collected on May 16, 2011 and received by Fibertec on May 17, 2011.

10 Soil Samples (4 samples on hold)

5 Water Samples (3 samples on hold)

All samples were received on ice and in good condition.

#### **Analysis**

Analyses were conducted in accordance with chain of custody and within hold times.

All applicable quality assurance / quality control parameters were within acceptance limits unless otherwise noted.

#### Hexavalent Chromium

The spiked sample recovery for sample 44583-014 (Dup 2-GW) was not within control limits.

#### Pesticides

Samples 44583-012 (SB10-GW) and 44583-014 (Dup2-GW) are estimated for delta-BHC, heptachlor epoxide, dieldrin, endrin, endosulfan II, endrin aldehyde, endosulfan sulfate and methoxychlor, low laboratory control sample. Results may be biased low.

The following were reported with elevated reporting limits

Laboratory Number	Sample ID	<u>Analysis</u>	Reason for elevated RL
			0 1 15 1
44583-002	SB2-S1	PNAs	Sample Matrix
44583-003	SB3-S1	PNAs	Sample Matrix
44583-004	SB3-S2	PNAs	Sample Matrix
44583-008	SB11-S1	PNAs	Sample Matrix
44583-009	Dup2-S	Metals, PNAs	Sample Matrix
44583-012	SB10-GW	Sulfate	Sample Matrix
44583-014	Dup2-GW	Sulfate	Sample Matrix

Sample data has been reviewed, and reported results remain valid.

Courtney Stock

Authorized Signature

5-24-2011

Date

1914 Holloway Drive Holt, Michigan 48842 11766 Grand River Brighton, Michigan 48116 Telephone: (517) 699-0345 Telephone: (810) 220-3300 Facsimile: (517) 699-0388 Facsimile: (810) 220-3311

FiberteC environmental services

Holf, MI 48842 1914 Holloway Drive Analytical Laboratory 8660 S. Mackinaw Trail

emall: lab@fibariec.us Fax: 517 699 0388 Phone: 517 699 0345

> Phone: 517 699 0345 Fax: 517 699 0382 Holf, MI 48842 Industrial Hygiene Services, Inc. 1914 Holloway Drive

Phone: 810 220 3300 Brighton, MI 48116 11766 E. Grand River Geoprobe Fanc 810 220 3311

108257 Chain of Custody #

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LAB USE ONLY. Eberlec project number: Laboratory Tracking. Temperature of Receipt.	Relinquished By:	Relinquished By:	Relinquished By	Comments:	<b>←</b>		No.		-	100				5/16/11	Sample Date	Purchase Order#		A	Project Name/ Number:	Contact Person:	Client Name:	
f nymber: cking: f Receipt:	a a	<i>'</i>	She w				11:00	12:00	12:00	1:50	11.15	1:15	5:18	7:25	Time	*		Ay PES12320-06		aes	SIME P	
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Project N	Contact	Client No		Fib	

ertec onmental services

Holf, MI 48842 1914 Holloway Drive Analytical Laboratory 8660 S. Mackinaw Trail

email: asbestos@fibertec.us

emali: lab@fiberlec.us Fax: 517 699 0388

> Industrial Hygiene Services, Inc. Hoff, MI 48842 1914 Holloway Drive

11766 E. Grand River Brighton, MI 48116 Phone: 810 220 3300 Fax 810 220 3311 Geoprobe

PAGE \_\_\_ of \_\_\_ Chain of Custody # 108258

LAB USE ONLY:  Fiberfec project number  Laboratory Tracking:  Temperature of Receipt:	Reinquished By:	Resinquished By:	Relinquished By: Shun So SME	Comments:		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	(1)		,	1123 13 SKII - 6W	1 1 123 17 SB10 - 6W	Shelin 1:30 11 SB3-6W 6	Sample Client Sample Date Time Sample Client Sample Descriptor	Purchase Order#		Project Name / Number: 265W North 1/2400 Hay	Contact Person: Oes Osuch	Citeri Name: SME Physiath
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Phone: 517 699 0345 Fax: 517 699 0388 Hoff, MI 48842 1914 Holloway Drive Analytical Laboratory 8660 S. Mackinaw Trail Phone: 231 775 5368 Cadillac, MI 49601

emall: lab@fibertec.us

Fax: 517 699 0382 Phone: 517 699 0345 1914 Holloway Drive email: asbestos@fibertec.us Holt, MI 48842

Industrial Hygiene Services, Inc.

Geoprobe Brighton, MI 48116 11766 E. Grand River

108257 Chain of Custody #

LAB USE ONLY:  Fiberiec project number: Laboratory tracking:	The State of the S	Relinquished By:	Comments:	V 10 Trip Blank	9 ap2-3	11:00 8 SBIT-SI	12:00 7 5810-52	5 6	S	1:15- 4 583-52	3	1 2:15 2 502-51	5/16/11 7:25 1 5/31-51	Lab Client Sample # Client Sample Descriptor	Purchase Order#	Prof PE542310-06	Project Name / Number: 2690 Northwestern Hay		Client Name: SimE Plymbuth
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TERMS & CONDITIONS ON BACK



1914 Holloway Drive Analytical Laboratory

emall: lab@fibertec.us

8660 S. Mackinaw Trail Phone: 231 775 8368 Cadillac, MI 49601 Fax: 231 775 8584

Phone: 517 699 0345 Hoff, MI 48842 1914 Holloway Drive Industrial Hygiene Services, Inc. Fax: 517 699 0382

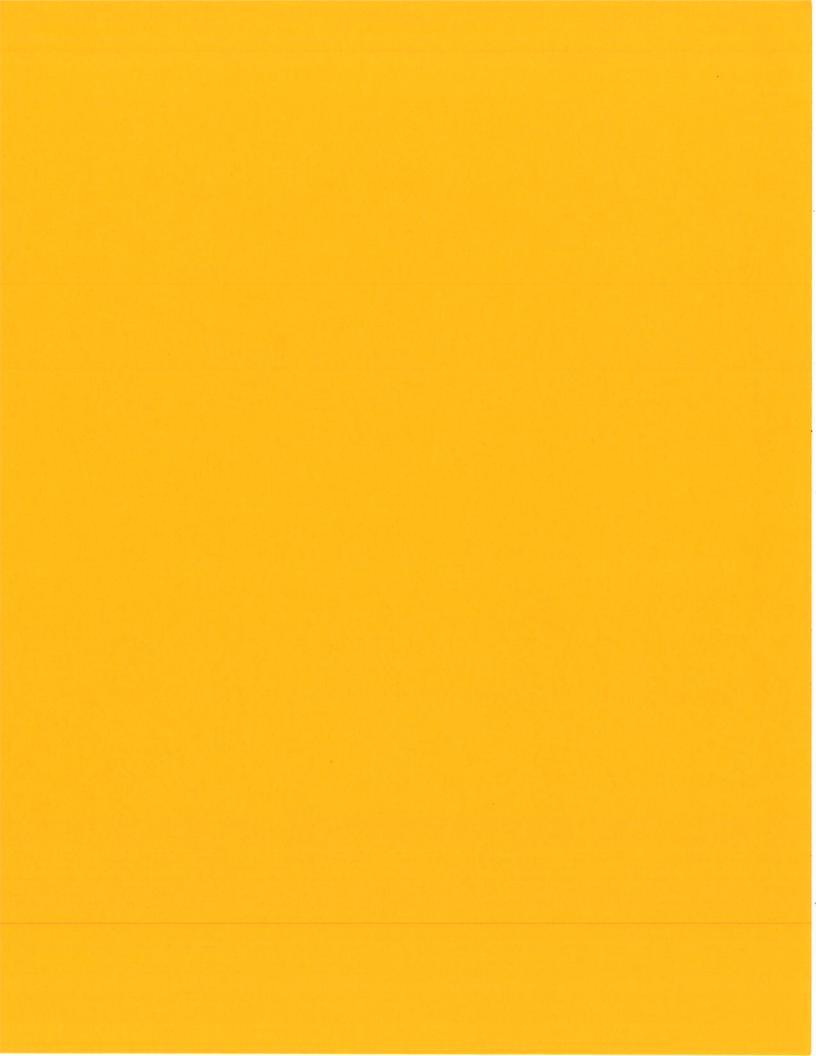
email: asbestos@fibertec.us

Brighton, MI 48116 11766 E. Grand River Geoprobe

Chain of Custody # PAGE Of D 108258

Laboratory Tracking:	AB USPONLY: Fiberfec project number:	Relinquished By:  Derepty Etros  Relinquished By:	Relinquished By: Sum So Smt	Comments:		V 15 Trip Bunk 1	14	12:30 13 SBH-6W 8	8 SB10-6W	shely 1:30 11 SB3-6W 6	cab Client ample Date Time Sample # Client Sample Descriptor	urchase Order#	89417520-1	roject Name/ Number: 2650 Northwestern Huy	Contact Person: Des Osuch	lient Name: SME Plymywr	
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COC Revisio	C	The state of the s	the 1							only bu's a	Remarks:		Standard (5-7 bus, days) Other: Specify		(surcharge applies) 48 hour RUSH (surcharge	Turnaround	
COC Revision: April, 2006		MOF								an passival			O Oil X Other: Specify P Wipe	A Air www.waste.water	S Soil Gw Ground Water	Matrix Code	

TERMS & CONDITIONS ON BACK





Client Identification:

Soil and Materials Engineers,

### Quality Control Report Matrix Spike Summary Laboratory Project Number: 44476

Client Project Name: 26500 Northwestern Highway

Order: 44476 Page: 1 of 9 Date: 05/19/11

Client Project No:

PE54232D-06

Inc. - Shelby Twp. Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted. Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable Michigan 10 Elements by ICP/MS (EPA 0200.2-M/EPA 6020A) Matrix: Soil/Solid Parent Sample: 44476-006A SB8-S1 Sample No: 6 Collect Date: 05/10/11 15:40 Description: **SB8-S1 MS** 05/10/11 MS Sample ID: 44476-007A Description: Sample No: Collect Date: 15:40 44476-008A Collect Date: MSD Sample ID: Description: SB8-S1 MSD Sample No: 8 05/10/11 15:40 MS MSD MS MSD MS/MSD RPD RPD Spike Parameter(s) Result Units Conc. Result Result % Rec % Rec LCL - UCL % UCL 1. Arsenic 2200 µg/kg 10000 12800 12000 106 98 70 - 130 8 20 2. Barium 6100 μg/kg 50000 57900 54700 104 97 70 - 130 7 20 3. Cadmium 50 10000 11000 10300 110 103 70 - 130 7 20 µg/kg 4. Chromium 4400 µg/kg 20000 24800 23600 102 96 70 - 130 6 20 24500 5. Copper 4300 20000 22900 101 93 8 20 µg/kg 70 - 1306. Lead 2800 μg/kg 20000 22500 22000 99 96 70 - 130 3 20 7. Selenium 230 10000 10600 9950 104 97 7 20 µg/kg 70 - 130 8. Silver 10000 10300 9960 103 100 70 - 130 3 20 <100 μg/kg 13000 50000 63500 60000 9. Zinc μg/kg 101 94 70 - 1307 20 Mercury by CVAAS (EPA 7471B) Matrix: Soil/Solid 05/10/11 Parent Sample: 44476-006A Description: SB8-S1 Sample No: 6 Collect Date: 15:40 **SB8-S1 MS** MS Sample ID: 44476-007A Description: Sample No: 7 Collect Date: 05/10/11 15:40 MSD Sample ID: 44476-008A Description: SB8-S1 MSD Sample No: 8 Collect Date: 05/10/11 15:40 MSD MS/MSD RPD RPD Spike MS MSD MS Parameter(s) Result Units Conc. Result Result % Rec % Rec LCL - UCL % UCL 1. Mercury <50 μg/kg (wet) 200 197 184 99 92 70 - 130 7 20 Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B) Matrix: Soil/Solid 05/10/11 Parent Sample: 44476-006 Description: SB8-S1 Sample No: 6 Collect Date: 15:40 MS Sample ID: 44476-007 Description: **SB8-S1 MS** Sample No: 7 Collect Date: 05/10/11 15:40 SB8-S1 MSD Collect Date: MSD Sample ID 44476-008 Description: Sample No: R 05/10/11 15:40 MSD RPD MS MSD MS MS/MSD **RPD** Spike Parameter(s) Result Units Conc Result Result % Rec % Rec LCL - UCL % UCL 1. Acetone <1000 5000 5980 5770 120 115 40 - 207 4 20 μg/kg (wet) 2. Acrylonitrile 5000 6550 45 - 180 2 <100 μg/kg (wet) 6460 131 129 20 3 Benzene <50 μg/kg (wet) 5000 4760 4780 95 96 63 - 141 20 4. Bromobenzene <100 μg/kg (wet) 5000 4800 4810 96 96 70 - 144 O 20 5. Bromochloromethane <100 5000 5290 5280 106 106 42 - 161 0 20 μg/kg (wet) 6. Bromodichloromethane <100 μg/kg (wet) 5000 5350 5500 107 110 60 - 150 3 20 7. Bromoform 5000 5580 5650 50 - 117 20 <100 112 113 μg/kg (wet) 8. Bromomethane <200 μg/kg (wet) 5000 3660 3620 73 72 58 - 217 1 20 9.2-Butanone <750 μg/kg (wet) 5000 5330 4920 107 98 42 - 193 9 20 10. n-Butylbenzene 5000 5440 5530 109 111 65 - 151 2 20 < 50 μg/kg (wet) 5000 5320 5300 O 20 11. sec-Butylbenzene <50 106 106 68 - 147 μg/kg (wet) 5000 5280 105 20 12. tert-Butylbenzene < 50 μg/kg (wet) 5260 106 68 - 140 1 13. Carbon Disulfide <250 5000 3760 3880 78 36 - 143 μg/kg (wet) 75 4 20 14. Carbon Tetrachloride μg/kg (wet) 5000 4710 4860 50 - 159 3 20 1914 Holloway Drive Holt, MI 48842 T: (517) 699-0345 F: (517) 699-0388 11766 E. Grand River Brighton, MI 48116 T: (810) 220-3300 F: (810) 220-3311 8660 S. Mackinaw Trail Cadillac, MI 49601 T: (231) 775-8368 F: (231) 775-8584



Order: 44476 Page: 2 of 9 Date: 05/19/11

Client Identification: Soil and Materials Engineers, Client Project Name: 26500 Northwestern Highway Client Project No: PE54232D-06

Inc. - Shelby Twp.

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable

Volatile Organic C	ompounds (VOCs)	by GC/MS, 5035 (EP	A 5035/EPA 82	60B)				M	latrix: Soil/Solid		
Parent Sample:	44476-006	Description:	SB8-S1		Sampl	e No:	6		Collect Date:	05/10/11	15:40
MS Sample ID:	44476-007	Description:	SB8-S1 MS		Sampl	e No:	7		Collect Date:	05/10/11	15:40
MSD Sample ID:	44476-008	Description:	SB8-S1 MSI	D	Sampl	e No:	8		Collect Date:	05/10/11	15:40
				Spike	MS	MSD	MS	MSD	MS/MSD	RPD	RPD
Parameter(s)		Result	Units	Conc.	Result	Result	% Rec	% Rec	LCL - UCL	%	UCL
15. Chlorobenzene		<50	μg/kg (wet)	5000	4400	4520	88	90	72 - 135	2	20
16. Chloroethane		<250	μg/kg (wet)	5000	4160	4160	83	83	16 - 207	0	20
17. Chloroform		<50	μg/kg (wet)	5000	5050	5030	101	101	47 - 159	0	20
18. Chloromethane		<250	μg/kg (wet)	5000	4600	4730	92	95	14 - 185	3	20
19. 2-Chlorotoluene	•	<50	μg/kg (wet)	5000	4850	4880	97	98	73 - 141	1	20
20. Dibromochloron	nethane	<100	μg/kg (wet)	5000	5290	5330	106	107	59 - 130	1	20
21. 1,2-Dibromo-3-0	chloropropane	<10	μg/kg (wet)	5000	5630	5730	113	115	34 - 164	2	20
22. Dibromomethan	ne	<250	μg/kg (wet)	5000	4960	5070	99	101	66 - 134	2	20
23. 1,2-Dichloroben	zene	<100	μg/kg (wet)	5000	4610	4620	92	92	76 - 128	0	20
24. 1,3-Dichloroben	zene	<100	μg/kg (wet)	5000	4570	4580	91	92	72 - 136	1	20
25. 1,4-Dichloroben	zene	<100	μg/kg (wet)	5000	4260	4310	85	86	74 - 127	1	20
26. Dichlorodifluoro	methane	<250	μg/kg (wet)	5000	5340	5400	107	108	10 - 207	1	20
27. 1,1-Dichloroetha	ane	<50	μg/kg (wet)	5000	5080	5050	102	101	42 - 157	1	20
28. 1,2-Dichloroetha	ane	<50	μg/kg (wet)	10000	9480	9610	95	96	56 - 146	1	20
29. 1,1-Dichloroethe	ene	<50	μg/kg (wet)	5000	4830	4900	97	98	34 - 165	1	20
30. cis-1,2-Dichloro	ethene	<50	μg/kg (wet)	5000	5810	5850	116	117	43 - 170	1	20
31. trans-1,2-Dichlo	roethene	<50	μg/kg (wet)	5000	3810	3820	76	76	49 - 162	0	20
32.1,2-Dichloroprop	pane	<50	μg/kg (wet)	5000	5210	5240	104	105	62 - 151	1	20
33. cis-1,3-Dichloro	propene	<50	μg/kg (wet)	5000	5540	5680	111	114	45 - 156	3	20
34. trans-1,3-Dichlo	ropropene	<50	μg/kg (wet)	5000	5540	5680	111	114	40 - 157	3	20
35. Ethylbenzene		<50	μg/kg (wet)	5000	4600	4670	92	93	76 - 137	1	20
36. Ethylene Dibron	nide	<20	μg/kg (wet)	10000	9470	9640	95	96	71 - 133	1	20
37. 2-Hexanone		<2500	μg/kg (wet)	5000	5980	6140	120	123	29 - 211	2	20
38. Isopropylbenzer	ne	<250	μg/kg (wet)	5000	5060	5170	101	103	68 - 153	2	20
39. Methyl Iodide		<100	μg/kg (wet)	5000	4020	3950	80	79	17 - 150	1	20
40. Methylene Chlo	ride	<100	μg/kg (wet)	5000	4440	4330	89	87	38 - 180	2	20
41. 4-Methyl-2-pent	anone	<2500	μg/kg (wet)	5000	5880	6040	118	121	55 - 161	3	20
42 MTBE		<250	μg/kg (wet)	10000	10500	10400	105	104	58 - 147	1	20
43. Naphthalene		<330	μg/kg (wet)	5000	5860	5860	117	117	45 - 180	0	20
44. n-Propylbenzen	е	<100	μg/kg (wet)	5000	5210	5170	104	103	71 - 146	1	20
45. Styrene		<50	μg/kg (wet)	5000	5170	5290	103	106	72 - 138	3	20
46. 1,1,1,2-Tetrachl	oroethane	<100	μg/kg (wet)	5000	4950	5030	99	101	61 - 131	2	20
47. 1,1,2,2-Tetrachl	oroethane	<50	μg/kg (wet)	5000	5270	5350	105	107	72 - 145	2	20
48. Tetrachloroethe	ne	<50	μg/kg (wet)	5000	4330	4490	87	90	50 - 151	3	20
49. Toluene		<50	μg/kg (wet)	5000	4830	4890	97	98	65 - 144	1	20
50. 1,2,4-Trichlorob	enzene	<330	μg/kg (wet)	5000	5140	5100	103	102	54 - 152	1	20
51. 1,1,1-Trichloroe	thane	<50	μg/kg (wet)	5000	4880	4930	98	99	46 - 156	1	20
52.1,1,2-Trichloroe	thane	<50	μg/kg (wet)	5000	4880	5020	98	100	80 - 129	2	20
53. Trichloroethene		<50	μg/kg (wet)	5000	4910	4960	98	99	65 - 144	1	20

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368 F: (517) 699-0388 F: (810) 220-3311 F: (231) 775-8584



Order: 44476 Page: 3 of 9 Date: 05/19/11

Client Identification:	Soil and Materials E	Client Project Name: 26500 Northwestern Highway						Client Project N	o: <b>PE5</b>	4232D-0	
Sample Comments:	Soil results have been	nd reported on	a dry weigh	nt basis un							
Definitions:	Q: Qualifier (see defin	nitions at end of	report) NA: No	ot Applicable	e					-	
Volatile Organic Co	ompounds (VOCs) by G	C/MS, 5035 (EP	A 5035/EPA 82	60B)				M	latrix: Soil/Solid		
Parent Sample:	44476-006	Description:	SB8-S1		Sampl	e No:	6		Collect Date:	05/10/11	15:40
MS Sample ID:	44476-007	Description:	SB8-S1 MS		Sampl	e No:	7		Collect Date:	05/10/11	15:40
MSD Sample ID:	44476-008	Description:	SB8-S1 MSE	)	Sampl	e No:	8		Collect Date:	05/10/11	15:40
<u> </u>		·		Spike	MS	MSD	MS	MSD	MS/MSD	RPD	RPI
Parameter(s)		Result	Units	Conc.	Result	Result	% Rec	% Rec	LCL - UCL	%	UC
54. Trichlorofluorom	ethane	<100	μg/kg (wet)	5000	4990	5110	100	102	31 - 226	2	20
55. 1,2,3-Trichloropr	ropane	<100	μg/kg (wet)	5000	5100	5050	102	101	74 - 139	1	20
56. 1,2,3-Trimethylb	enzene	<100	μg/kg (wet)	5000	4880	4910	98	98	77 - 133	0	20
57. 1,2,4-Trimethylb	enzene	<100	μg/kg (wet)	5000	5090	5100	102	102	71 - 139	0	20
58. 1,3,5-Trimethylb	enzene	<100	μg/kg (wet)	5000	5080	5090	102	102	71 - 138	0	20
59. Vinyl Chloride		<40	μg/kg (wet)	5000	5220	5210	104	104	25 - 189	0	20
60. Xylenes		<150	μg/kg (wet)	15000	14400	14500	96	97	69 - 134	1	20
,											
Polvnuclear Aroma	atic Hydrocarbons (PNA	s) (EPA 3550C/	EPA 8270C)					M	latrix: Soil/Solid		
Parent Sample:	44476-006A	Description:	SB8-S1		Sampl	e No:	6		Collect Date:	05/10/11	15:40
MS Sample ID:	44476-007A	Description:	SB8-S1 MS		Sampl		7		Collect Date:	05/10/11	15:40
MSD Sample ID:	44476-008A	Description:	SB8-S1 MSI	)	Sampl		8		Collect Date:	05/10/11	15:40
viola campio ila.	44470 00071	Boomption	020 01 11102	Spike	MS	MSD	MS	MSD	MS/MSD	RPD	RPI
Parameter(s)		Result	Units	Conc.	Result	Result	% Rec	% Rec	LCL - UCL	%	UCI
1. Acenaphthene (S	SIM)	<330	μg/kg (wet)	5330	4520	4440	85	83	54 - 118	2	30
2. Acenaphthylene (SIM)		<330	μg/kg (wet)	5330	4480	4370	84	82	57 - 122	2	30
3. Anthracene (SIM)		<330	μg/kg (wet)	5330	4440	4340	83	81	56 - 119	2	30
4. Benzo(a)anthrac	,	<330	μg/kg (wet)	5330	4420	4320	83	81	57 - 116	2	30
5. Benzo(a)pyrene	` '	<330	μg/kg (wet)	5330	4800	4700	90	88	64 - 124	2	30
6. Benzo(b)fluorant		<330	μg/kg (wet)	5330	4800	4730	90	89	61 - 127	1	30
7. Benzo(ghi)peryle		<330	μg/kg (wet)	5330	4680	4420	88	83	64 - 122	6	30
8. Benzo(k)fluorant		<330	μg/kg (wet)	5330	4800	4740	90	89	60 - 122	1	30
9. Chrysene (SIM)		<330	μg/kg (wet)	5330	4090	4020	77	75	47 - 109	3	30
10. Dibenzo(a,h)antl	hracene (SIM)	<330	μg/kg (wet)	5330	4790	4600	90	86	67 - 127	5	30
11. Fluoranthene (Si	` ,	<330	μg/kg (wet)	5330	4860	4700	91	88	59 - 128	3	30
12 Fluorene (SIM)	,	<330	μg/kg (wet)	5330	4550	4470	85	84	58 - 124	1	30
13. Indeno(1,2,3-cd)	invrene (SIM)	<330	μg/kg (wet)	5330	4640	4400	87	82	74 - 137	6	30
14. 2-Methylnaphtha		<330	μg/kg (wet)	5330	3820	3740	72	70	18 - 97	3	30
15. Phenanthrene (S	` '	<330	μg/kg (wet)	5330	4650	4550	87	85	56 - 119	2	30
16. Pyrene (SIM)	Silvi)	<330	μg/kg (wet)	5330	4700	4630	88	87	61 - 122	1	30
To: Tyrono (Onv.)		1000	pg/itg (iiot/	0000	1700	1000	00	O,	01 122	·	00
	P ISM01.2/EPA 9014)							M	latrix: Soil/Solid		
Parent Sample:	44476-006A	Description:	SB8-S1		Sampl	e No:	6		Collect Date:	05/10/11	15:40
MS Sample ID:	44476-007A	Description:	SB8-S1 MS		Sampl		7		Collect Date:	05/10/11	15:40
MSD Sample ID:	44476-007A 44476-008A	Description:	SB8-S1 MSI	)	Sampl		, 8		Collect Date:	05/10/11	15:40
nob oumple ib.	7771 V VVVA	Doscription.	ODO-OT MOL	Spike	MS	MSD	MS	MSD	MS/MSD	RPD	RPE
Parameter(s)		Result	Units	Conc.	Result	Result	% Rec	% Rec	LCL - UCL	%	UCI
1. Cyanide		<200	μg/kg (wet)	3000	3100	3080	103	103	-	0	
	101411-11 5 '		I-H AM 40040		<b>.</b>	F47\ /00 00	45		F /F47\ / 00 00		
	1914 Holloway Drive		Holt, MI 48842 Prighton MI 4011	,		517) 699-03		F: (517) 699-0388			
	11766 E. Grand River		Brighton, MI 4811 Cadillac MI 40401		•	810) 220-33 221) 775 02		F: (810) 220-3311			
	8660 S. Mackinaw Trail	C	Cadillac, MI 49601		•	231) 775-83	00		F: (231) 775-85	04	
	(00/01/11)			lah@fiherte	ec HS						



Order: 44476 Page: 4 of 9 Date: 05/19/11

Client Identification:	Soil and Materials Engineers, Client Project Name: 26500 Northwestern Highway Inc Shelby Twp.								Client Project N	o: <b>PE</b> 5	4232D-06			
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.													
Definitions:	s: Q: Qualifier (see definitions at end of report) NA: Not Applicable													
Inorganic Anions by	y IC (EPA 0300.0/EF	PA 9056)						Ma	atrix: Soil/Solid					
Parent Sample:	44476-006A	Description:	SB8-S1		Sampl	e No:	6		Collect Date:	05/10/11	15:40			
MS Sample ID:	44476-007A	Description:	SB8-S1 MS		Sample No:		7		Collect Date:	05/10/11	15:40			
MSD Sample ID:	44476-008A	Description:	SB8-S1 MS	D	Sample No: 8		8		Collect Date:	05/10/11	15:40			
				Spike	MS	MSD	MS	MSD	MS/MSD	RPD	RPD			
Parameter(s)		Result	Units	Conc.	Result	Result	% Rec	% Rec	LCL - UCL	%	UCL			
1. Sulfate		<10000	μg/kg (wet)	250000	217000	224000	84*	87*	90 - 110	4	20			

DCSID: G-623.5 (03/21/11)



Order: 44476 Page: 5 of 9 Date: 05/19/11

Client Identification: Soil and Materials Engineers, Client Project Name: 26500 Northwestern Highway Client Project No: PE54232D-06 Inc. - Shelby Twp. Sample Comments: Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable Michigan 10 Elements by ICP/MS, Total Recoverable (EPA 3005A-M/EPA 6020A) Matrix: Ground Water Parent Sample: 44476-015B Description: SB8-GW Sample No: 15 Collect Date: 05/10/11 16:00 MS Sample ID: 44476-016B Description: SB8-GW MS Sample No: Collect Date: 05/10/11 16:00 16 MSD Sample ID: 44476-017B SB8-GW MSD Collect Date: 05/10/11 Description: Sample No: 17 16:00 MS MSD MS MSD MS/MSD RPD RPD Spike Parameter(s) Result Units Conc. Result Result % Rec % Rec LCL - UCL % UCL 7.6 µg/L 1. Arsenic 100 123 123 115 116 70 - 130 1 20 2 2. Barium 120 μg/L 500 658 647 108 106 70 - 130 20 3. Cadmium <1.0 μg/L 100 117 116 117 116 70 - 130 20 4. Chromium <10 μg/L 200 207 207 102 102 70 - 130 0 20 μg/L 200 218 2 20 5. Copper <4.0 214 107 109 70 - 130 6. Lead <3.0 μg/L 200 201 200 100 100 70 - 130 0 20 100 7. Selenium <5.0 116 116 116 116 0 20 μg/L 70 - 130 8. Silver < 0.20 μg/L 100 109 108 109 108 70 - 130 20 9. Zinc <50 500 522 540 102 106 70 - 130 4 20 µg/L Mercury by CVAAS, Total (EPA 7470A) Matrix: Ground Water 44476-015B SB8-GW 05/10/11 16:00 Parent Sample: Description: Sample No: 15 Collect Date: MS Sample ID: 44476-016B SB8-GW MS Sample No: Collect Date: 05/10/11 16:00 Description: 16 SB8-GW MSD 05/10/11 MSD Sample ID: 44476-017B Description: Sample No: 17 Collect Date: 16:00 Spike MS MSD MS MSD MS/MSD RPD RPD Parameter(s) Result Units Conc. Result Result % Rec % Rec LCL - UCL UCL 1. Mercury < 0.20 μg/L 0.200 0.205 0.213 103 107 70 - 130 4 20 Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B) Matrix: Ground Water

44476-015										
Parent Sample: 44476-015		SB8-GW		Sample No:		15		Collect Date:	05/10/11	16:00
44476-016	Description:	SB8-GW I	MS	•		16		Collect Date:	05/10/11	16:00
44476-017	Description:	SB8-GW	MSD			17		Collect Date:	05/10/11	16:00
	Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	MS/MSD LCL - UCL	RPD %	RPD UCL
	<50	μg/L	100	134	131	134	131	19 - 165	2	20
	<2.0	μg/L	100	110	112	110	112	43 - 155	2	20
	<1.0	μg/L	100	113	110	113	110	69 - 137	3	20
	<1.0	μg/L	100	116	115	116	115	65 - 140	1	20
5. Bromochloromethane		μg/L	100	108	105	108	105	33 - 141	3	20
nethane	<1.0	μg/L	100	123	118	123	118	84 - 144	4	20
	<1.0	μg/L	100	120	127	120	127	66 - 136	6	20
	<5.0	μg/L	100	145	165	145	165	56 - 172	13	20
	<25	μg/L	100	111	111	111	111	28 - 176	0	20
	<1.0	μg/L	100	124	120	124	120	63 - 149	3	20
ne	<1.0	μg/L	100	117	114	117	114	61 - 143	3	20
ne	<1.0	μg/L	100	113	110	113	110	70 - 139	3	20
е	<5.0	μg/L	100	125	122	125	122	27 - 166	2	20
loride	<1.0	μg/L	100	127	122	127	122	70 - 140	4	20
	thane nethane	44476-017         Description:           Result         <50	Result         Units           <50	44476-017         Description:         SB8-GW MSD           Result         Units         Spike Conc.           <50	44476-017         Description:         SB8-GW MSD         Sample           Result         Units         Spike Conc.         MS Result           <50	44476-017         Description:         SB8-GW MSD         Sample No:           Result         Units         Spike Conc.         MS MSD Result           <50	44476-017         Description:         SB8-GW MSD         Sample No:         17           Result         Units         Spike Conc.         MS Result         MSD Result         MS Result           <50	No.   No.	44476-017         Description:         SB8-GW MSD         Sample No:         17         Collect Date:           Result         Spike Lunits         MS Conc.         MS Result         MSD Result         MSD WRC         MSD WRC         MSD MS/MSD LCL - UCL           <50	44476-017         Description:         SB8-GW MSD         Sample No:         17         Collect Date:         05/10/11           Result         Units         Spike Conc.         MS Result         MSD Result         MSD WS/MSD WS/M

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368 F: (517) 699-0388 F: (810) 220-3311 F: (231) 775-8584



Sample Comments:

### Quality Control Report Matrix Spike Summary Laboratory Project Number: 44476

Order: 44476 Page: 6 of 9 Date: 05/19/11

Client Identification: Soil and Materials Engineers, Client Project Name: 26500 Northwestern Highway Client Project No: PE54232D-06

Inc. - Shelby Twp.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable

Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)						Matrix: Ground Water							
Parent Sample:	44476-015	Description:	SB8-GW		Sampl	e No:	15		Collect Date:	05/10/11	16:00		
MS Sample ID:	44476-016	Description:	SB8-GW N	<b>I</b> S	Sampl	e No:	16		Collect Date:	05/10/11	16:00		
MSD Sample ID:	44476-017	Description:	SB8-GW N	MSD	Sampl	e No:	17		Collect Date:	05/10/11	16:00		
				Spike	MS	MSD	MS	MSD	MS/MSD	RPD	RPD		
Parameter(s)		Result	Units	Conc.	Result	Result	% Rec	% Rec	LCL - UCL	%	UCL		
15. Chlorobenzene		<1.0	μg/L	100	109	108	109	108	88 - 126	1	20		
16. Chloroethane		<5.0	μg/L	100	131	128	131	128	33 - 172	2	20		
17. Chloroform		<1.0	μg/L	100	117	117	117	117	66 - 138	0	20		
18. Chloromethane		<5.0	μg/L	100	79.4	92.7	79	93	45 - 153	16	20		
19. 2-Chlorotoluene	)	<5.0	μg/L	100	117	114	117	114	75 - 137	3	20		
20. Dibromochlorom	nethane	<5.0	μg/L	100	121	117	121	117	83 - 127	3	20		
21. 1,2-Dibromo-3-c	chloropropane	<1.0	μg/L	100	101	104	101	104	66 - 134	3	20		
22. Dibromomethan	ne	<5.0	μg/L	100	98.7	97.7	99	98	67 - 148	1	20		
23. 1,2-Dichloroben	zene	<1.0	μg/L	100	105	103	105	103	71 - 154	2	20		
24. 1,3-Dichloroben	zene	<1.0	μg/L	100	107	106	107	106	74 - 156	1	20		
25. 1,4-Dichloroben	zene	<1.0	μg/L	100	104	102	104	102	89 - 121	2	20		
26. Dichlorodifluoro	methane	<5.0	μg/L	100	125	120	125	120	44 - 188	4	20		
27. 1,1-Dichloroetha	ane	<1.0	μg/L	100	117	116	117	116	59 - 145	1	20		
28. 1,2-Dichloroetha	ane	<1.0	μg/L	200	260	246	130	123	68 - 143	6	20		
29. 1,1-Dichloroethe	ene	<1.0	μg/L	100	128	123	128	123	56 - 163	4	20		
30. cis-1,2-Dichloro	ethene	<1.0	μg/L	100	123	121	123	121	54 - 161	2	20		
31. trans-1,2-Dichloroethene		<1.0	μg/L	100	131	131	131	131	56 - 153	0	20		
32.1,2-Dichloroprop	pane	<1.0	μg/L	100	119	115	119	115	66 - 135	3	20		
33. cis-1,3-Dichloro	propene	<1.0	μg/L	100	115	111	115	111	81 - 144	4	20		
34. trans-1,3-Dichlo	ropropene	<1.0	μg/L	100	121	115	121	115	66 - 150	5	20		
35. Ethylbenzene		<1.0	μg/L	100	114	112	114	112	88 - 131	2	20		
36. Ethylene Dibron	nide	<1.0	μg/L	200	221	219	111	109	86 - 131	2	20		
37. 2-Hexanone		<50	μg/L	100	139	140	139	140	37 - 183	1	20		
38. Isopropylbenzer	ne	<5.0	μg/L	100	115	112	115	112	89 - 148	3	20		
39. Methyl Iodide		<5.0	μg/L	100	103	125	103	125	38 - 159	19	20		
40. Methylene Chlor	ride	<5.0	μg/L	100	129	127	129	127	38 - 149	2	20		
41. 4-Methyl-2-penta	anone	<50	μg/L	100	142	135	142	135	60 - 152	5	20		
42 MTBE		<5.0	μg/L	200	254	255	127	128	54 - 144	1	20		
43. Naphthalene		<5.0	μg/L	100	109	109	109	109	64 - 158	0	20		
44. n-Propylbenzen	е	<1.0	μg/L	100	119	116	119	116	64 - 146	3	20		
45. Styrene		<1.0	μg/L	100	117	113	117	113	79 - 129	3	20		
46. 1,1,1,2-Tetrachl	oroethane	<1.0	μg/L	100	114	113	114	113	84 - 135	1	20		
47. 1,1,2,2-Tetrachl	oroethane	<1.0	μg/L	100	116	114	116	114	69 - 141	2	20		
48. Tetrachloroethene <1.0		<1.0	μg/L	100	105	103	105	103	81 - 145	2	20		
49. Toluene		<1.0	μg/L	100	110	107	110	107	77 - 135	3	20		
50. 1,2,4-Trichlorob	enzene	<5.0	μg/L	100	110	107	110	107	73 - 152	3	20		
51. 1,1,1-Trichloroe	thane	<1.0	μg/L	100	123	121	123	121	69 - 143	2	20		
52.1,1,2-Trichloroe	thane	<1.0	μg/L	100	101	101	101	101	84 - 122	0	20		
53. Trichloroethene		<1.0	μg/L	100	106	103	106	103	72 - 143	3	20		

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601 T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368 F: (517) 699-0388 F: (810) 220-3311 F: (231) 775-8584



Order: 44476 Page: 7 of 9 Date: 05/19/11

Client Identification: Client Project Name: 26500 Northwestern Highway Client Project No: PE54232D-06 Soil and Materials Engineers, Inc. - Shelby Twp. Sample Comments: Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B) Matrix: Ground Water Parent Sample: 44476-015 Description: SB8-GW Sample No: 15 Collect Date: 05/10/11 16:00 SB8-GW MS 05/10/11 MS Sample ID: 44476-016 Description: Sample No: 16 Collect Date: 16:00 44476-017 Description: SB8-GW MSD Collect Date: MSD Sample ID: Sample No: 17 05/10/11 16:00 MS MSD MS MSD MS/MSD RPD RPD Spike Parameter(s) Result Units Conc. Result Result % Rec % Rec LCL - UCL % UCL 54. Trichlorofluoromethane <1.0 μg/L 100 133 127 133 127 41 - 181 5 20 55. 1,2,3-Trichloropropane <1.0 μg/L 100 117 112 117 112 82 - 127 4 20 56. 1,2,3-Trimethylbenzene <1.0 μg/L 100 112 109 112 109 80 - 133 3 20 57. 1,2,4-Trimethylbenzene <1.0 μg/L 100 117 116 117 116 81 - 140 20 58. 1,3,5-Trimethylbenzene <1.0 100 112 112 82 - 140 3 20 μg/L 115 115 59. Vinyl Chloride <1.0 μg/L 100 130 131 130 131 40 - 174 20 <3.0 300 349 340 113 3 20 60. Xylenes μg/L 116 85 - 133 Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535A/EPA 8270C) Matrix: Ground Water Parent Sample: 44476-015D Description: SB8-GW Sample No: 15 Collect Date: 05/10/11 16:00 MS Sample ID: 44476-016D SB8-GW MS Sample No: 16 Collect Date: 05/10/11 16:00 Description: 44476-017D SB8-GW MSD MSD Sample ID: Description: Sample No: 17 Collect Date: 05/10/11 16:00 Spike MS MSD MS MSD MS/MSD **RPD** RPD Parameter(s) Result Units Conc. Result Result % Rec % Rec LCL - UCL % UCL 1. Acenaphthene < 5.0 μg/L 84.2 66.0 74.0 78 88 47 - 125 12 30 2. Acenaphthylene <5.0 84.2 90 46 - 124 30 μg/L 67.9 75.9 81 11 3. Anthracene <5.0 μg/L 84.2 66.8 73.4 79 87 45 - 131 10 30 8 4. Benzo(a)anthracene <1.0 84.2 70.7 76.6 84 91 43 - 133 30 μg/L 5. Benzo(a)pyrene <1.0 µg/L 84.2 72.5 78.8 86 94 46 - 134 9 30 6. Benzo(b)fluoranthene 84.2 72.7 79.6 95 10 30 <1.0 μg/L 86 45 - 136 7. Benzo(ghi)perylene <1.0 μg/L 84.2 64.2 69.1 76 82 37 - 140 8 30 <10 8. Benzo(k)fluoranthene 84.2 71.8 78.1 85 93 44 - 135 9 30 μg/L <1.0 8 30 9. Chrysene μg/L 84.2 61.7 66.5 73 79 35 - 131 10. Dibenzo(a,h)anthracene <20 μg/L 84.2 67.8 73.9 80 88 40 - 139 10 30 11. Fluoranthene <1.0 μg/L 84.2 72.4 78.6 86 93 48 - 137 8 30 12. Fluorene <5.0 μg/L 84 2 68.6 76.0 81 90 59 - 121 11 30 13. Indeno(1,2,3-cd)pyrene <20 μg/L 84.2 68.2 75.8 81 90 38 - 145 11 30 14. 2-Methylnaphthalene 84.2 75 30 <5.0 μg/L 54.7 63 1 65 39 - 105 14 μg/L 15. Phenanthrene <2.0 84.2 67.7 74.8 80 89 54 - 120 11 30 16. Pyrene <5.0 μg/L 84.2 71.3 77.9 85 92 52 - 115 8 30 Cyanide, Total (EPA 9010C/EPA 9014) Matrix: Ground Water Parent Sample: 44476-015C Description: SB8-GW Sample No: 15 Collect Date: 05/10/11 16:00 MS Sample ID: 44476-016C Description: SB8-GW MS Sample No: 16 Collect Date: 05/10/11 16:00 SB8-GW MSD MSD Sample ID: 44476-017C Description: Sample No: 17 Collect Date: 05/10/11 16:00 MS MSD MS MSD MS/MSD RPD RPD Spike % Rec % Rec UCL Parameter(s) Result Units Conc. Result Result LCL - UCL % 1. Cyanide <5.0 μg/L 250 230 221 1914 Holloway Drive Holt, MI 48842 T: (517) 699-0345 F: (517) 699-0388 11766 E. Grand River Brighton, MI 48116 T: (810) 220-3300 F: (810) 220-3311 8660 S. Mackinaw Trail Cadillac, MI 49601 T: (231) 775-8368 F: (231) 775-8584



Order: 44476 Page: 8 of 9 Date: 05/19/11

Client Identification:	Soil and Material Inc Shelby Twp		Client Pro	oject Name:	26500 No	orthwester	n Highway		Client Project N	o: <b>PE5</b>	4232D-06
Sample Comments:											
Definitions:	Q: Qualifier (see	definitions at end of re	eport) NA: N	lot Applicabl	е						
Inorganic Anions b	y IC (EPA 9056)							Ma	atrix: Ground W	ater	
Parent Sample:	44476-015A	Description:	SB8-GW		Sampl	e No:	15		Collect Date:	05/10/11	16:00
MS Sample ID:	44476-016A	Description:	SB8-GW MS	S	Sample No:		16		Collect Date:	05/10/11	16:00
MSD Sample ID:	44476-017A	Description:	SB8-GW MS	SD	Sample No:		17		Collect Date:	05/10/11	16:00
-				Spike	MS	MSD	MS	MSD	MS/MSD	RPD	RPD
Parameter(s)		Result	Units	Conc.	Result	Result	% Rec	% Rec	LCL - UCL	%	UCL
1. Sulfate		140000	μg/L	25000	156000	156000	79*	80*	90 - 110	1	20

DCSID: G-623.5 (03/21/11)



Order: 44476 Page: 9 of 9 Date: 05/19/11

#### **Definitions/ Qualifiers:**

- A: Spike recovery or precision unusable due to dilution.
- B: The analyte was detected in the associated method blank.
- E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J: The concentration is an estimated value.
- M: Modified Method
- U: The analyte was not detected at or above the reporting limit.
- X: Matrix Interference has resulted in a raised reporting limit or distorted result.
- W: Results reported on a wet-weight basis.
- \*: Value reported is outside QA limits

#### **Exception Summary:**

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

#### **Laboratory Approval:**

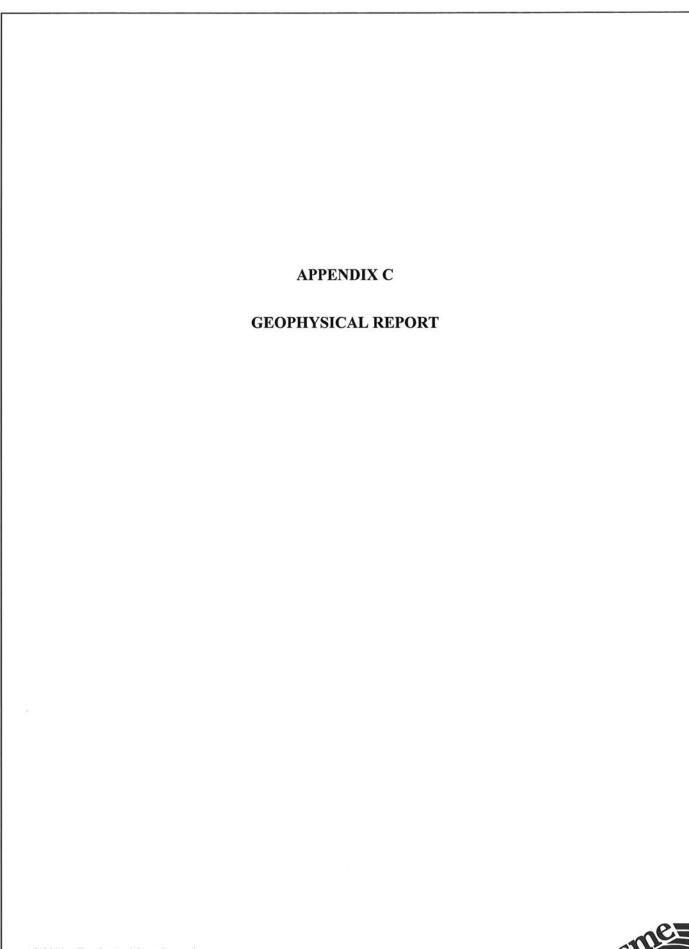
Daryl P. Strandbergh Laboratory Director Peter J. Priniski Quality Assurance Officer

Pete Prilii



E-10395

DCSID: G-623.5 (03/21/11)





19 January 2011

Paul Roberts Soil & Materials Engineers 43980 Plymouth Oaks Blvd Plymouth, Michigan 48170

Re: Geophysical Investigation, 26500 NW Highway Southfield, Michigan: Geophysical Survey Letter Report Geosphere Project No. 10-744 SME Project No. PE54232D-06

Dear Paul:

We have completed our data analysis, interpretation, and report describing the geophysical survey conducted 4 and 5 January 2011 at the Commercial Property at 26500 NW Highway, Southfield, Michigan. This site was unoccupied at the time of survey. The site was surveyed with EM31 and gradiometer magnetometer instruments supported by ground penetrating radar (GPR) lines.

#### **SITE SETTING**

The site is situated between two major highways, Interstate 696 and Michigan Route 10 (Lodge Freeway); Northwestern Highway acts as a service road along the northern side of M-10. The property lies immediately north of Northwestern Highway and just east of Lahser Road. The property contains a large multi-stored commercial building surrounded by parking lots on the east, north and west sides. The largest north lot extends from Lahser Road to the eastern property line; the east and west lots extend to NW Highway on the south property line. A large electrical transformer is located in the center of the North Lot, off the northwest corner of the Building. An aluminum/steel framed canopy (for parked cars) lies along the east property line in the east parking lot.

#### **GEOPHYSICAL GRID**

The geophysical grid was setup using the eastern and northern edges of the Commercial Building; this northeast building corner was used as a reference position (400E/000N). The grid was expanded to the west to gridline 040E (west Lot sidewalk), to the north to gridline 110N (north Lot fence), to the east to gridline 470E (east property line) and to the south to gridline -260N (sidewalk along NW Highway) (Figure 1.2). Red spray paint was used to mark grid nodes at 10-foot increments on the parking areas. Detailed coverage was made over this grid using EM31 and gradiometer magnetometer instruments for the detection and location of possible buried pipes, rebar in foundations, tanks, metal/concrete debris, and other anomalous subsurface conditions. The east lot coverage was focused in the center of the east lot as directed by the client. A professional Leica GPS unit was used to determine State Plane coordinates at 13 locations on our grid system.

Geophysical coverage is shown in Figure 3.1; data were collected at 2-foot intervals on each EM and Magnetometer line. Primary data were collected in the east-west direction over the three parking areas with 5-foot spacing. Secondary lines were made with EM in the north-south direction, to check for pipes oriented east-west. Radar lines were made over pipe, cable and other EM/Mag anomalies. Locations of power poles, manholes, and other cultural features are also plotted on these maps for reference.

#### GEOPHYSICAL SURVEY RESULTS

EM and magnetic contour maps are presented in Figures 4.1, 4.2, and 4.3 respectively. Figure 4.4 shows the combined EM, Mag and radar anomalies (without the color contours) showing disturbed soil/possible filled basement zones.

EM/Mag Results: The Conductivity and Inphase Metal maps given in Figures 4.1 and 4.2 provide a good overall view showing the major electrical conduits and pipes across the entire site. These include the main power feed to the large electrical transformers in the center of the North Lot and wires feeding the Building. Also seen are smaller wires servicing all the electrical light poles scattered over the property. A probable water pipe appears to run along the western site boundary near Lahser Road; another water pipe is interpreted east of the building in the east lot. Large unexplained metal anomalies are observed in Figure 4.2 along the 25N gridline at 120E, 230E and 430E; these might be associated with an old drainage system/catch structures, or zones of unknown fill/basement structures. Another smaller zone is found at coordinates 240E/-15N. The anomaly at 240E/-240N is a gas meter structure with steel bumper posts.

The conductivity map shows a large zone of high conductivity values north and northwest of the Building. This might be due to the use of road salt employed for de-icing in the winter months, or caused by previous land use prior to lot construction. Anomalous contours observed along the west side of the Building are caused by the loading dock area, steel fencing and concrete storage areas. The canopy area on the east side also caused a large anomaly. The large anomaly immediately north of the Building is caused by steel in the frame of the Building's structure.

The magnetic contours (Figure 4.3) also show a large effect north (and east) of the Building caused by the structural steel. Large anomalies are also associated with the steel transformer structure and parking sign posts along the 35N gridline; other anomalies are associated with the light posts found around the site. A zone of small anomalies at coordinates 240E/25N correlates with the EM anomaly east of a drain grate; other small anomalies occur at 240E/-20N. Anomalies along the west boundary on Lahser Road are likely associated with the interpreted water pipe (EM data). Anomalies seen near the east entrance are caused by structural steel in the protruding entrance roof. Anomalies seen near the canopy area are typical of the steel visible supporting the canopy roof. There are no visible anomalies that are characteristic of buried tanks or other large structures.

Radar Results: Radar lines were run over the areas showing EM/mag anomalies as well as several long lines to check general site conditions. EM anomalies in the 120E/20N area were checked with five lines. Interpretation of these sections indicate that two potential former basements are found in this area (Figure 4.4); they are likely filled with debris. More importantly, was the discovery of a large pipe-like structure running east-west through the western half of the site (070E to 305E); it appears to be 2 to 3+ feet in diameter and is composed of a non-metal material such as concrete or plastic. It lies 3 to 4 feet below the asphalt surface. It might be related to an old drainage system.

Other large zones of disturbed soil are found at 200E/20N and 200E/70N; these also may be filled basements or large zones of deeply disturbed soil. Smaller zones of soil disturbance are found along the 275E line, particularly near the northwest building corner and the electrical transformer area. Other potential filled basement locations are found at 430E/25N and 460E/-160N under the canopy area. Small metal debris may lie in the 430E/25N location; two pipes/conduit also pass through this zone (Figure 4.4). Radar was able to image a large (water?) pipe along gridline 425E at a depth of 6 to 7 feet. Smaller zones of disturbed soil were also found near the east entranceway and near the two drain structures (-220N).

Results and interpretations in this report are provided on a best possible basis, given the limits of the three techniques. Direct sampling methods should be used to confirm these interpreted features. If you have any questions, please contact me at 989-662-6149 or email rglaccum@geosphereinc.com.

Sincerely,

Robert A. Glaccum, PG

Polent allacer

Project Manager

